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COMPLETE STREETS

MASTER PLAN

July 2016









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COMPLETE STREETS
MASTER PLAN

REPORT

FOR

COMPLETE STREETS MASTER PLAN

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EXECUTIVE SUMMARY

E.1. What are Complete Streets?

Complete Streets are streets for everyone. They are designed and operated to enable safe access for all users. Pedestrians, bicyclists, motorists and transit riders of all ages and abilities must be able to safely move along and across a complete street. Complete Streets make it easy to cross the street, walk to shops, and bicycle to work. They allow buses to run on time and make it safe for people to walk to and from destinations. These elements are incorporated into the roadway design while at the same time allowing for safe, efficient movement of vehicular traffic.

E.2. Project Purpose

The purpose of the Complete Streets Master Plan is to identify the Regional Transportation Commission of Washoe County's (RTC) long range strategy for complete street treatments in the Reno-Sparks metropolitan area. This plan addresses:

- Safety,
- Traffic flow, and
- Connections for all modes of travel.

Although, this plan recognizes the need to ensure complete street improvements meet American's with Disability Act (ADA) Compliance, this plan is not intended as an ADA self-assessment or transition plan.

E.3. Project Overview

The Complete Streets Master Plan project includes five primary task assignments. The following is a brief description of the tasks associated with this project, with a more detailed description of each task in subsequent sections of this document.

- **Review Existing Reports and Data** – National complete streets guidance was reviewed along with complete streets reports and studies prepared by the RTC. A summary of these documents is provided within this report.
- **Level of Service Analysis** – A vehicular Level of Service (LOS) analysis was conducted at five unsignalized locations along roadways where a lane reduction complete street had been implemented and found minimal impact of lane reduction complete streets on side street vehicle turning movements.
- **Analysis for Complete Streets** – Potential locations for possible lane reduction complete streets were identified. The RTC input the locations of potential lane reduction complete streets into their Regional Transportation Demand Model to determine impacts to the surrounding road network, and modifications were made to the recommendations.
- **Agency and Community Outreach** – A Technical Advisory Committee (TAC) was formed to help guide the project and obtain feedback from agencies. Meetings were held throughout the project with the TAC committee to gain feedback on locations of existing complete streets, identify locations for the LOS, obtain input on the evaluation criteria, and review project recommendations. Four public meetings were held to inform the public on

the progress of the project and obtain feedback on recommendations for complete street improvements.

- **Complete Streets Master Plan** – A Complete Streets Master Plan (this document) was developed summarizing the project components, and identifying a master plan for prioritized locations for consideration of complete streets.

E.4. Recommendations

Prioritized locations for complete streets were determined based on the results of the evaluation criteria, filling gaps in the network, and the identification of locations where lane reduction complete street projects could be considered. Comments received from the RTC, the Technical Advisory Committee (TAC) and the public were incorporated into the plan.

The recommendations identify priority locations where complete street improvements should be considered. Complete streets are not one-size-fits-all, rather they tend to be designed to meet the needs of the corridor and the community they serve. Depending upon the context and need of users, the complete street could include sidewalks, safer pedestrian crossings, bike lanes, wide outside lanes, median islands, narrower travel lanes, special transit amenities, and more. The context of the street is understood through deliberate analysis of travel conditions, including all modes, as well as stakeholder outreach throughout the community. Along corridors where lane reductions are recommended, existing access controls and future traffic volumes should be considered.

The complete street priority recommendations included in **Figure E1** and **Table E1** warrant further consideration with respect to feasibility of construction and the context and need of the users. It is recommended that the RTC conduct site specific corridor studies in instances where they have not been previously completed, to determine the appropriate complete streets treatments for each location. Complete street improvements are recommended to comply with the most current edition of the AASHTO Green Book, MUTCD, NACTO Urban Street Design Guide, ADA requirements, and/or local guidelines.

As the RTC moves forward with implementation of the project recommendations, the following items should be considered when evaluating corridors for complete street improvements:

- Give full consideration to the accommodation of the transportation needs of all users, regardless of age or ability, including those traveling by private vehicle, mass transit, foot, wheelchair, and bicycle.
- Investigate multiple treatment options, including conversion of a travel lane to a bike lane, and/or a parallel roadway if right-of-way is constrained on the proposed roadway.
- Solutions should be developed to fit within the context(s) of the community and those solutions should be flexible so that the needs of the corridor can be met.

As new development and redevelopment occur, it is recommended that adequate bicycle, pedestrian, and transit facilities be provided through the local jurisdiction's development process. In areas experiencing significant growth with respect to demand, project prioritization may be modified or revisited to address the changes in the area. Finally, the RTC is anticipated to partner with the local jurisdictions to increase transportation mode choices along corridors.

Figure E1 – Locations Recommended for Complete Street Projects

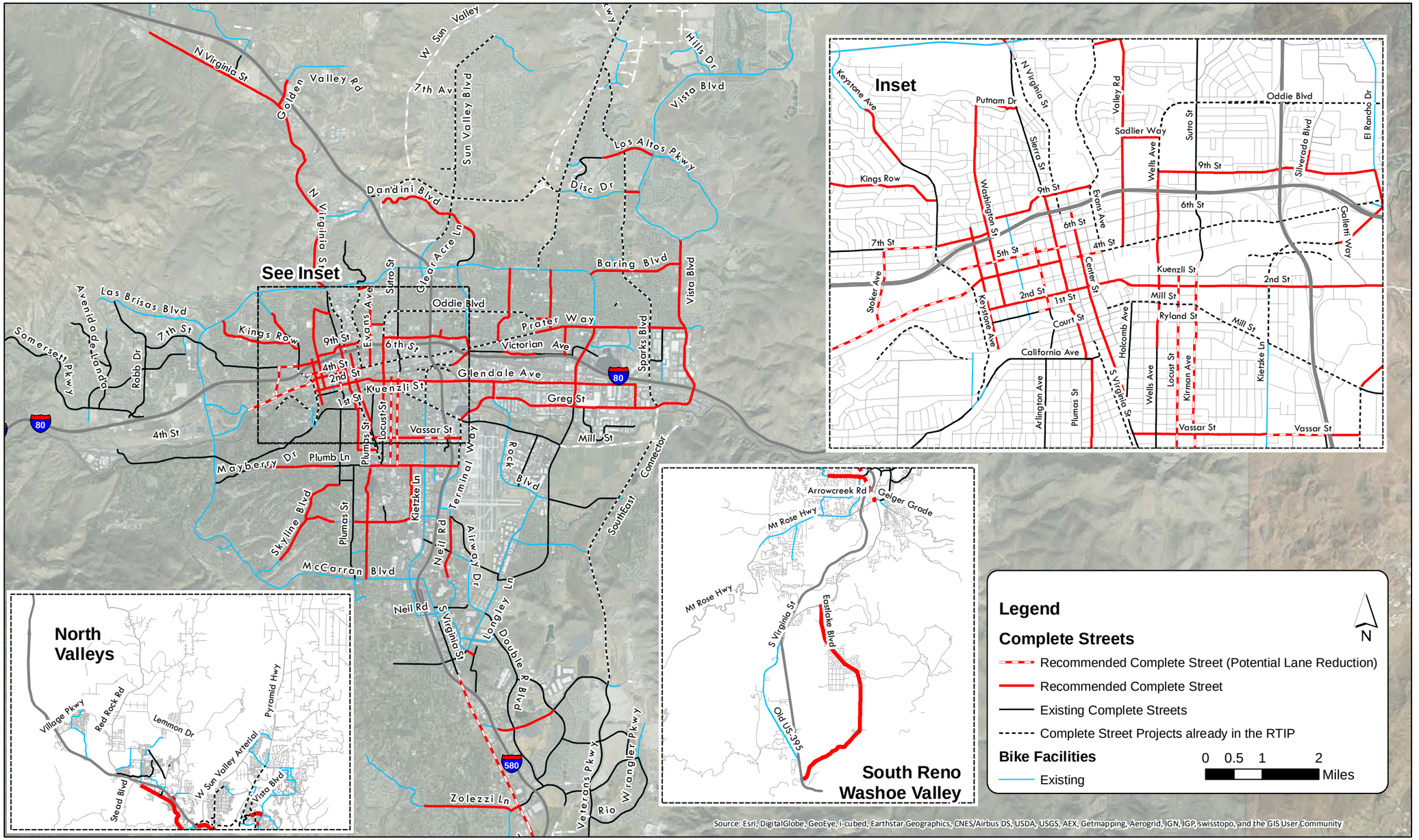


Table E1 – Complete Streets Recommendation Summary

ID	Road Name	From	To	Complete Street Considerations for Further Review and Study:
A	North Virginia Street	Stead Boulevard	McCarran Boulevard	Sidewalks and bike lanes. An off-street shared-use path may be considered
B	Golden Valley Road	N Virginia Street	North Hills Boulevard	Bike lanes
C	El Rancho Drive/Dandini Boulevard	Raggio Parkway	Sullivan Lane	Sidewalks
D	Los Altos Parkway	Ion Court/Ion Drive	Vista Boulevard	Bike lanes
E	Disc Drive	Sparks Boulevard	Vista Boulevard	Enhanced sidewalks and bike lanes
F	Kings Row	McCarran Boulevard	Keystone Avenue	Bike lanes
G	Keystone Avenue	Coleman Drive	Peavine Road	Sidewalks and bike lanes
H-1	Sadleir Way	Valley Road	Wells Avenue	Bike lanes
H-2	Valley Road	Sadleir Way	Enterprise Road	Sidewalks and bike lanes
H-3	Enterprise Road	Evans Avenue	Valley Road	Enhanced sidewalk on north side of road
I	Rock Boulevard	Greg Street	Glendale Avenue	Sidewalks and bike lanes
J	4th Street (Sparks)	Prater Way	McCarran Boulevard	Bike lanes
K	Baring Boulevard	McCarran Boulevard	Vista Boulevard	Bike lanes
L	Vista Boulevard	Greg Street	S Los Altos Parkway	Sidewalks and bike lanes
M	Washington Street	Putnam Drive	W 2nd Street	Bike lanes
N	San Rafael Drive	Washington Street	N Sierra Street	Sidewalks and bike lanes
O	I Street	Pyramid Way	4th Street	Bike lanes
P	Prater Way	Pyramid Way	Vista Boulevard	Enhanced sidewalks and bike lanes
Q	Stanford Way	Victorian Avenue	Prater Way	Bike lanes
R	McCarran Boulevard	Greg Street	Prater Way	Sidewalks and bike lanes
S	7th Street (Reno)	Stoker Avenue	Washington Street	Bike lanes
T	9th Street/University Terrace (Reno)	Keystone Avenue	North Virginia Street	Sidewalks and bike lanes
U	Sierra Street	California Avenue	9th Street	Bike lanes
V	4th Street (Reno)	Keystone Avenue	Sierra Street	Enhanced sidewalks and bike lanes
W-1	W 2nd Street (Reno)	Keystone Avenue	Galletti Way	Enhanced sidewalks, landscaping, bike lanes
W-2	Glendale Avenue	Galletti Way	Meredith Way	Bike lanes
X	Wells Avenue	Moran Street	E 9th Street	Bike lanes and bike/pedestrian facilities over the Truckee River
Y	Forest Street	California Avenue	Mount Rose Street	Bike lanes
Z	Greg Street	Mill Street	Vista Boulevard	Sidewalks and bike lanes
AA	Vassar Street	Holcomb Avenue	Terminal Way	Bike lanes
AB	Center Street (Reno)	South Virginia Street	Maple Street/I-80 Onramp	Bike lanes
AC	Victorian Avenue	16th Street	Pyramid Way	Bike lanes
AD	9th Street/G Street	Wells Avenue	El Rancho Drive	Enhanced sidewalks and bike lanes
AE	Silverada Boulevard	E 9th Street	Hiko Avenue	Bike lanes
AF	Kietzke Lane	Galletti Way	Victorian Avenue	Sidewalks and bike lanes
AG	Rock Boulevard	Prater Way	McCarran Boulevard	Enhanced sidewalks and bike lanes
AH	Plumb Lane	Lakeside Drive	Terminal Way	Bike lanes
AI	Skyline Boulevard	Cashill Boulevard	Arlington Avenue	Bike lanes
AJ	Moana Lane	Plumas Street	Baker Lane	Sidewalks and bike lanes
AK	Lakeside Drive	McCarran Boulevard	Plumb Lane	Bike lanes
AL	Yori Avenue	Moana Lane	Plumb Lane	Sidewalks and bike lanes
AM	Neil Road	McCarran Boulevard	Moana Lane	Bike lanes
AN	Huffaker Lane	Bluestone Drive	Longley Lane	Bike lanes
AO	South Meadows Parkway	I-580 Northbound Ramps	Double Diamond Parkway	Bike lanes
AP	Zolezzi Lane	Villa Marbella Circle	Arlington Avenue	Sidewalks
AQ	Eastlake Boulevard	Old US 395	I-580 Interchange	Bike lanes or multiuse path
AR	Vine Street	Riverside Drive	University Terrace	Bike lanes
The following corridors are recommended for consideration for lane reduction complete streets based on existing and forecasted traffic volumes.				
BA	4th Street (Reno)	North Virginia Street	Evans Avenue	Enhanced sidewalks and bike lanes. Consider a lane reduction project.
BB	Stoker Avenue	W 4th Street	W 7th Street	Bike lanes. Consider a lane reduction project.
BC	5th Street (Reno)	Keystone Avenue	North Virginia Street	Bike lanes. Consider a lane reduction project.
BD	Arlington (Reno)	6th Street	1st Street	Bike lanes. Consider a lane reduction project.
BE	4th Street (Reno)	Summit Ridge Drive	Keystone Avenue	Enhanced sidewalks and bike lanes. Consider a lane reduction project.
BF	Locust Street	Plumb Lane	Kuenzli Street	Bike lanes. Consider a lane reduction project.
BG	Kirman Avenue	Plumb Lane	Kuenzli Street	Bike lanes. Consider a lane reduction project.
BH	Vassar Street	Holcomb Avenue	Terminal Way	Bike lanes. Consider a lane reduction project along section with 2 lanes in each direction.
BI	South Virginia Street	E Patriot Boulevard	SR 431/SR 341	Sidewalks and bike lanes. Consider a lane reduction project.

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List of Acronyms

AADT	Average Annual Daily Traffic
AASHTO	American Association of State Highway and Transportation Officials
DETR	Nevada Department of Employment, Training and Rehabilitation
FHWA	Federal Highway Administration
GIS	Geographic Information System
HCM	Highway Capacity Manual
LOS	Level of Service
MUTCD	Manual on Uniform Traffic Control Design
MVMT	Million Vehicle Miles Traveled
NACTO	National Association of City Transportation Officials
NDOT	Nevada Department of Transportation
NHS	National Highway System
RTC	Regional Transportation Commission of Washoe County
RTIP	Regional Transportation Improvement Program
TAC	Technical Advisory Committee
TWLTL	Two-Way Left Turn Lane
UNR	University of Nevada Reno
vpd	Vehicles per Day
vplpd	Vehicles per Lane per Day

1. INTRODUCTION

1.1. What are Complete Streets?

Complete Streets are streets for everyone. They are designed and operated to enable safe access for all users. Pedestrians, bicyclists, motorists and transit riders of all ages and abilities must be able to safely move along and across a complete street. Complete Streets make it easy to cross the street, walk to shops, and bicycle to work. They allow buses to run on time and make it safe for people to walk to and from destinations.

1.2. Project Purpose

The purpose of the Complete Streets Master Plan is to identify the Regional Transportation Commission of Washoe County's (RTC) long range strategy for complete street treatments in the Reno-Sparks metropolitan area. This plan addresses:

- Safety,
- Traffic flow, and
- Connections and accessibility for all modes of travel.

Although, this plan recognizes the need to ensure complete street improvements meet American's with Disability Act (ADA) Compliance, this plan is not intended as an ADA self-assessment or transition plan.

"Thank you for the complete streets. The Truckee Meadows has become a much better place to get around for all forms of transportation. Speaking as both a driver and a cyclist, the improvements on Mayberry, Plumb, Plumas, Arlington, California and others have been most welcome. I look forward to seeing more."

Public Comment

1.3. Project Overview

The Complete Streets Master Plan includes five primary task assignments. The following is a brief description of the tasks associated with this project, with a more detailed description of each task in subsequent sections of this document. **Figure 1** illustrates the Complete Streets Master Plan project process and timeline.

1.3.1. Review Existing Reports and Data

National complete streets guidance was reviewed along with complete streets reports and studies prepared by the RTC Washoe. A summary of these documents is provided within this report.

1.3.2. Level of Service Analysis

A vehicular Level of Service (LOS) analysis was conducted at five unsignalized locations along roadways where a lane reduction complete street had been implemented to determine the impact of lane reduction complete streets on side street vehicle turning movements.

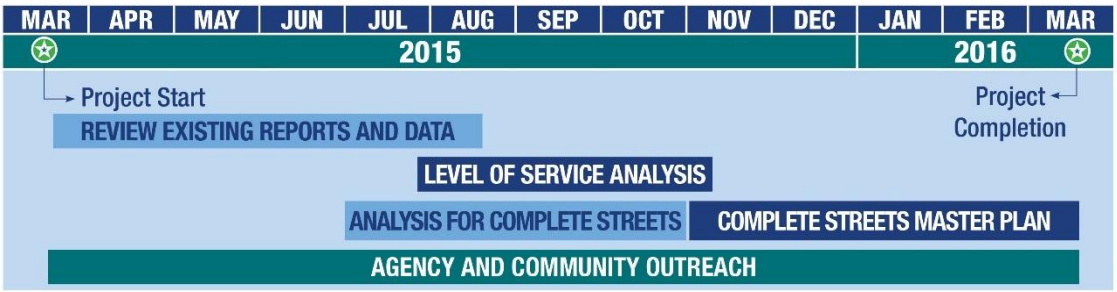
1.3.3. Analysis for Complete Streets

Potential locations for complete streets were identified by conducting an innovative Geographic Information System (GIS) analysis to identify and quantify roadway characteristics and surrounding demographics to determine potential locations for prioritization of complete street projects. The results of the GIS analysis were overlaid with the existing and planned complete street network to determine potential locations to prioritize complete streets. The RTC input the locations of potential lane reduction complete streets into their Regional Transportation Demand

Model to determine impacts to the surrounding road network, and modifications were made to the recommendations.

Figure 1 – Complete Streets Master Plan Project Process





1.3.4. Agency and Community Outreach

A Technical Advisory Committee (TAC) was formed to help guide the project and obtain feedback from agencies. Meetings were held throughout the project with the TAC to gain feedback on locations of existing complete streets, identify locations for the LOS, obtain input on the evaluation criteria, and review project recommendations.

Four public meetings were held to inform the public on the progress of the project and obtain feedback on recommendations for complete street improvements.

1.3.5. Complete Streets Master Plan

A Complete Streets Master Plan (this document) was developed summarizing the project components, and identifying a master plan for prioritized locations for consideration of complete streets.

1.4. Document Organization

This document is organized into the following sections:

- **Section 1** presents the project background and purpose of the Complete Streets Master Plan.
- **Section 2** provides a summary of types of complete streets along with the benefits of complete streets.
- **Section 3** includes a literature review of national and local complete streets documents.
- **Section 4** summarizes the agency and community outreach conducted as part of this project.
- **Section 5** presents the results of the vehicular LOS analysis conducted to determine the impacts of lane reduction complete streets on side street vehicle turning movements.
- **Section 6** contains the summary of the analysis conducted to determine complete street recommendations.
- **Section 7** contains the recommended complete street locations for consideration by the RTC.
- **Appendices** include public comments, count data, level of service calculations, analysis of Center Street and Sierra Street in regards to potential bicycle facilities as well as a brief summary of existing conditions and high-level recommendations for each of the identified prioritized complete street locations.

2. WHAT ARE COMPLETE STREETS?

Complete Streets design is an approach or policy used within the transportation industry to promote street networks for all users, not just automobile travel. Smart Growth America defines Complete Streets as[1]:

Complete Streets are streets for everyone. They are designed and operated to enable safe access for all users, including pedestrians, bicyclists, motorists and transit riders of all ages and abilities. Complete Streets make it easy to cross the street, walk to shops, and bicycle to work.

A Complete Streets Program is defined as following in the Nevada Revised Statutes (*NRS 277A.285)* [2]:

"Complete Streets Program" means a program for the retrofitting of streets or highways that are under the jurisdiction of the commission for the primary purpose of adding or significantly repairing facilities which provide street or highway access considering all users, including, without limitation, pedestrians, bicycle riders, persons with a disability, persons who use public transportation and motorists. The term includes the operation of a public transit system as part of a Complete Streets Program, but the term does not include the purchase of vehicles or other hardware for a public transit system."

Complete streets tend to include enhanced amenities for bicycles, pedestrians, transit, and other users, in addition to the traditional amenities for automobile travel. Over the past 50 years, the movement for planning and designing streets that serve more than automotive travel has grown from local policies to a more national effort that is backed by groups such as the National Complete Streets Coalition and the U.S. Department of Transportation and the National Association of City Transportation Officials (NACTO).

The purpose of implementing Complete Streets policies and design is to provide access to safe, comfortable, and convenient travel for users, regardless of age, ability, income, race, or ethnicity. This access could include walking, driving, biking, or taking public transportation.

"RTC has done more for cycling in the last 5 years then was ever done before. Please keep the cyclists in mind in the future. With the influx of folks to Tesla and the like, more and more recreational cyclists will be coming to the area."

Public Comment

[1]http://www.smartgrowthamerica.org/complete-streets/complete-streets-fundamentals/complete-streets-faq
[2]https://www.leg.state.nv.us/nrs/NRS-277A.html#NRS277ASec285

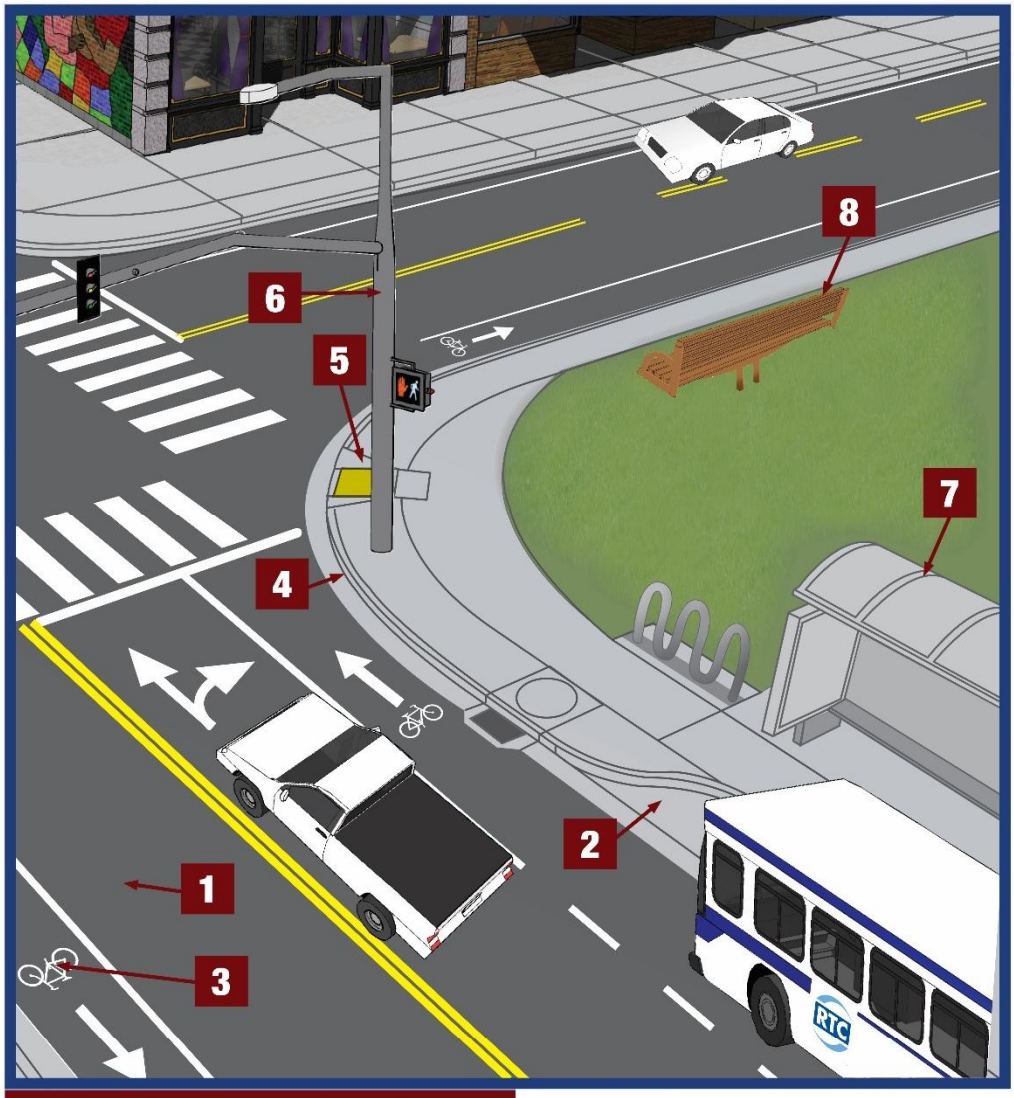
2.1. Types of Complete Streets

Complete streets are not one size fits all, rather they tend to be designed to meet the needs of the corridor and community they serve. Depending upon the context and need of users, the complete street could include sidewalks, safer pedestrian crossings, bike lanes, wide outside lanes, median islands, narrower travel lanes, special transit amenities, and more. The context of the street is understood through deliberate analysis of travel conditions, including all modes, as well as stakeholder outreach throughout the community.



When developing a complete street, the context of the street should be considered, to identify local transportation needs. There are a wide variety of elements that should be considered when designing a complete street, including: vehicle travel lanes, bus turnouts, bicycle lanes, curbs and gutter, sidewalks and ADA ramps, traffic signals, transit stops and amenities, and aesthetic treatments such as street furniture, amenities and landscaping. **Figure 2** contains possible elements that could be considered as part of a complete street project. Additional elements could be considered based on the location and intent of the corridor.

Figure 2 – Possible Elements of Complete Streets



Toolbox of Some Complete Street Elements:

1. Vehicle Travel Lanes
2. Bus Turnouts
3. Bicycle Lanes
4. Curb and Gutter
5. Sidewalks and ADA Ramps
6. Traffic Signals
7. Transit Stop and Amenities
8. Street Furniture and Landscaping

Often times, right-of-way constraints limit opportunities to widen the roadway to allow for additional elements, such as bike lines and expanded sidewalk widths. In these cases, there are other options that can be considered such as narrowing the existing travel lanes or reducing the number of travel lanes.

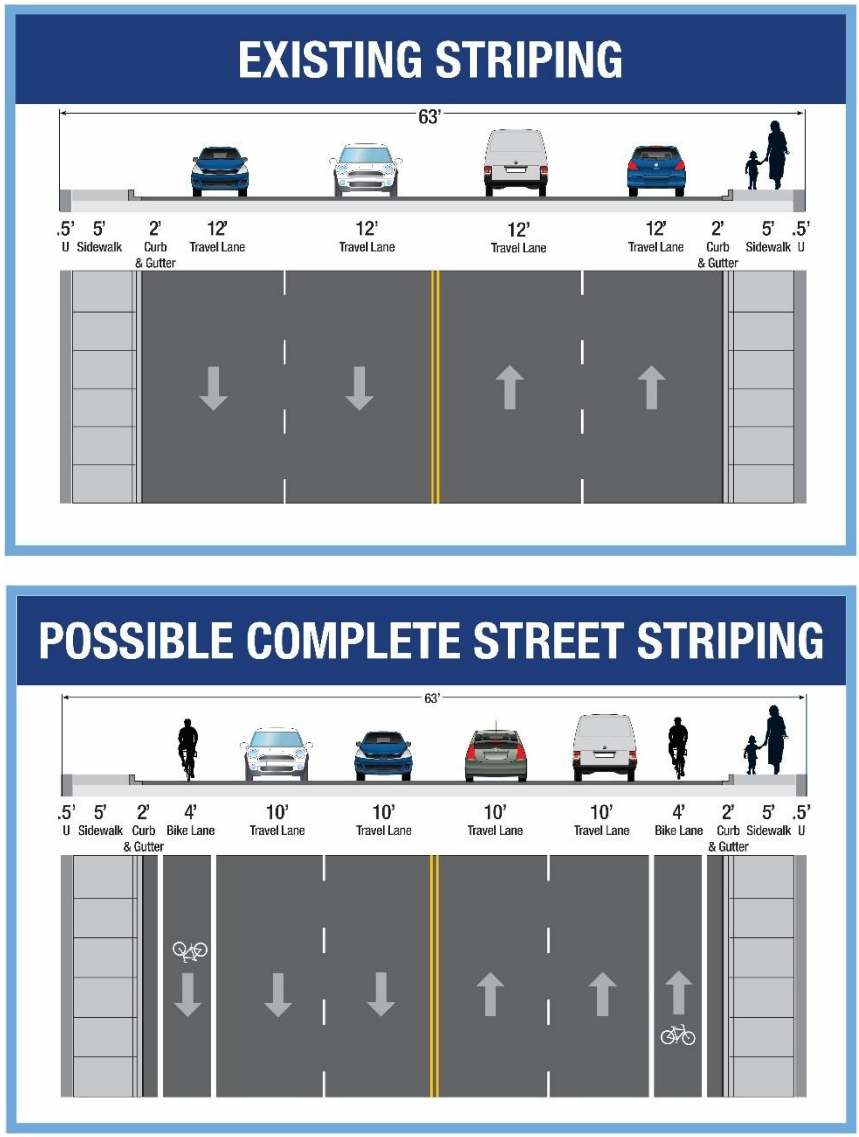
2.1.1. Spot Improvements

Some spot improvements can transform an ordinary street to a complete street, especially if multiple modes are already accommodated along the roadway by enhancing sidewalks, implementing transit improvements, addressing ADA concerns, creating bulb-outs for pedestrian cross walks, etc.

2.1.2. Narrowing Lanes

In cases where additional right-of-way is not available, and vehicle volumes prohibit the ability to reduce the number of travel lanes, narrowing the lanes could be considered as an option to provide a dedicated bike lane. **Figure 3** contains an example of how a roadway could be restriped to allow a bike lane by narrowing the existing travel lanes.

Figure 3 – Example of a Lane Narrowing Complete Street



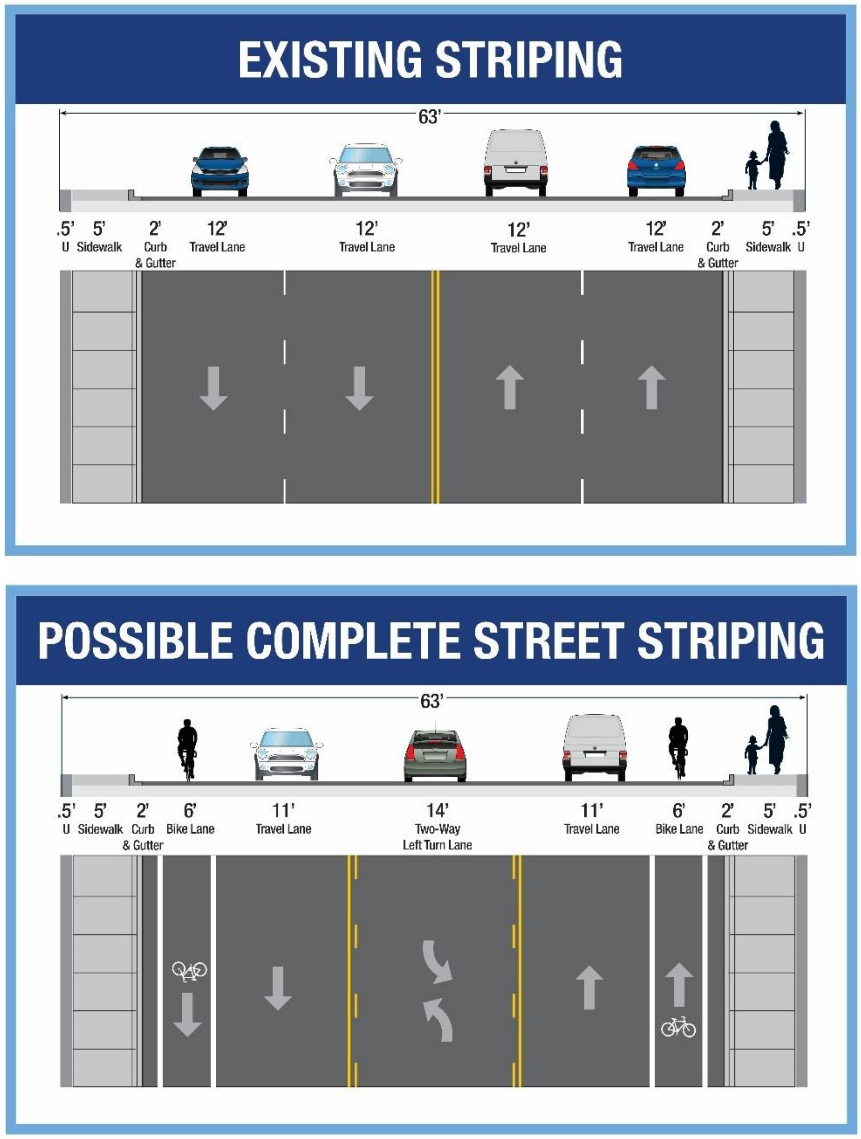
2.1.3. Lane Reduction

In situations where there are currently four travel lanes and vehicle volumes of less than 18,000 vehicles per day (vpd) and less than 1,500 vehicles per hour, the RTC considers a lane reduction complete street treatment. An example of how a roadway could be restriped for a lane reduction complete street is illustrated in **Figure 4**.

2.1.4. Major Roadway Reconstruction/ Roadway Widenings

The implementation of Complete Streets at times requires major reconstruction, sometimes including the construction of additional travel lanes for vehicles and the use of new right-of-way for installing enhanced sidewalks. For example, the Moana Lane Complete Streets project in the City of Reno, widened the road from four to six lanes, and added bike lanes, landscaping and sidewalks 5 or 6 feet wide. This improvement required that right-of-way be acquired by the RTC, to accommodate this multimodal expansion.

Figure 4 – Example of a Lane Reduction Complete Street



2.2. Benefits of Complete Streets

The National Complete Streets Coalition defines numerous benefits related to the implementation of Complete Streets design and policies, including[3]:

- **Safety Improvements** – Complete Streets can improve vehicular and pedestrian safety through the introduction of traffic calming measures such as raised medians and narrower travel lanes.
- **Improved Mode Choice/Reduced Congestion** – Complete Streets tend to implement a more connected network for transit riders, pedestrians and cyclists, which improves the chances that people will choose alternative modes of transportation over single occupancy vehicles. By implementing and promoting alternative transportation choices, Complete Streets tend to alleviate congestion by distributing travelers amongst many modes.
- **Economic/Business Growth** – a complete street network promotes economic vitality and growth by providing better and safer access to community destinations, including residences, schools, commercial areas, and parks, to name a few.
- **Livability/Aesthetics** – by implementing and promoting walking and cycling improvements, Complete Streets promote active movement, which can help to reduce the obesity epidemic and support an aging population.
- **Sustainability** – by promoting alternative trip choices, Complete Streets can have the effect of removing congestion producing single occupancy vehicle trips, helping to ease pollution concerns, improve air quality and promote a safer environment for travel.

While the benefits of Complete Streets are numerous, there are a few that are especially valuable for RTC. These are discussed in the following sections.

2.2.1. Safety Improvements

One of the primary benefits of implementing Complete Streets design and policy concepts is the ability to mitigate and reduce crashes, including vehicular, pedestrian, and cyclist collisions. Improvements could include the introduction or widening of sidewalks, addition of crosswalks or protected crossings, raised medians, traffic calming, and creating dedicated spaces for non-vehicular users.

- **Pedestrian Safety Improvements** – Pedestrian safety along a corridor is adversely impacted by the lack of walking amenities and traffic speed. Research has shown more than 40% of pedestrian fatalities occur where there is no available crosswalk.[4] In terms of vehicular speed, when a pedestrian is hit by a car going 40 miles per hour (mph), the likelihood of death is 80%. If the car is going 30 mph, the likelihood drops to 40% and if the car is going 20 mph, the likelihood drops to 5%.

  These improvements have been shown to significantly improve pedestrian safety around Complete Streets corridors. According to research by the Federal Highway Administration

[3] http://www.smartgrowthamerica.org/complete-streets/complete-streets-fundamentals/benefits-of-complete-streets/

[4] Source: Ernst, Michelle and Lilly Shoup. (2009). Dangerous by Design. Transportation for America and the Surface Transportation Policy Partnership.

(FHWA), the following improvements have been shown to notably reduce pedestrian crashes[5]:

- Sidewalk improvements or additions (**88%** crash reduction)
- Introduction of pedestrian crossing beacons (**69%** crash reduction)
- Introduction of center medians (**39%** crash reduction)
- Road diets[6], traffic calming, or road conversions (**29%** crash reduction)

- **Cyclist Safety Improvements** – the introduction of safer cycling amenities can prove beneficial for both cyclists and pedestrians. In locations where cycling amenities are not located in the roadway (either wide outside lanes or dedicated bike lanes), cyclists often choose to ride on the sidewalk, which presents dangers for both the cyclist and the pedestrian. Studies have shown that the introduction of bicycle amenities can reduce cycling crash rates by as much as 50%.[7]
- **Vehicle Safety Improvements** – finally, the introduction of Complete Streets concepts along roadways can also provide crash reduction benefits for automobiles by reducing speed, conflicts, and collision opportunities. The U.S. Highway Safety Research System showed that road diets could reduce crashes by 19% on corridors in larger city areas.[8] Additionally, crash severity is typically reduced as vehicle speeds are lowered.

With the implementation of complete streets by the RTC, large percentages of crash reductions have been documented at eight different locations, as shown in **Table 1**.

Table 1 – Safety Benefits of Complete Streets in Washoe County

Location	Reduction in Crashes
Wells Avenue	31%
California/Mayberry	42%
Arlington Avenue	46%
Mill Street	43%
Sutro Street	38%
Plumas Street	41%
Sierra Street	31%
Victorian Avenue	35%

The projects shown in **Table 1** are examples of lane reduction complete streets, but regardless of the treatment, complete streets in Washoe County are resulting in significant safety benefits.

[5] Source: FHWA, An Analysis of Factors Contributing to "Walking Along Roadway" Crashes: Research Study and Guidelines for Sidewalks and Walkways.Report No. FHWA-RD-01-101, FHWA, Washington D.C., 2001.
Source: http://safety.fhwa.dot.gov/provencountermeasures/

[6] A road diet is also known as a lane reduction or road re-channelization for the purpose of reducing the number of travel lanes and/or effective roadway width in order to achieve systematic improvements.

[7] Reynolds, C., et al. (2009). "The Impact of Transportation Infrastructure on Bicycling Injuries and Crashes: A Review of the Literature." Environmental Health, Vol. 8, No. 47.

[8] HSIS (2010), *Evaluation of Lane Reduction "Road Diet" Measures on Crashes Summary Report Research, Development, and Technology*, Highway Safety Research System

In addition, enhanced pedestrian facilities were constructed on Sutro Street, Plumas Street and Victorian Avenue.

2.2.2. Improved Mode Choice/Reduced Congestion

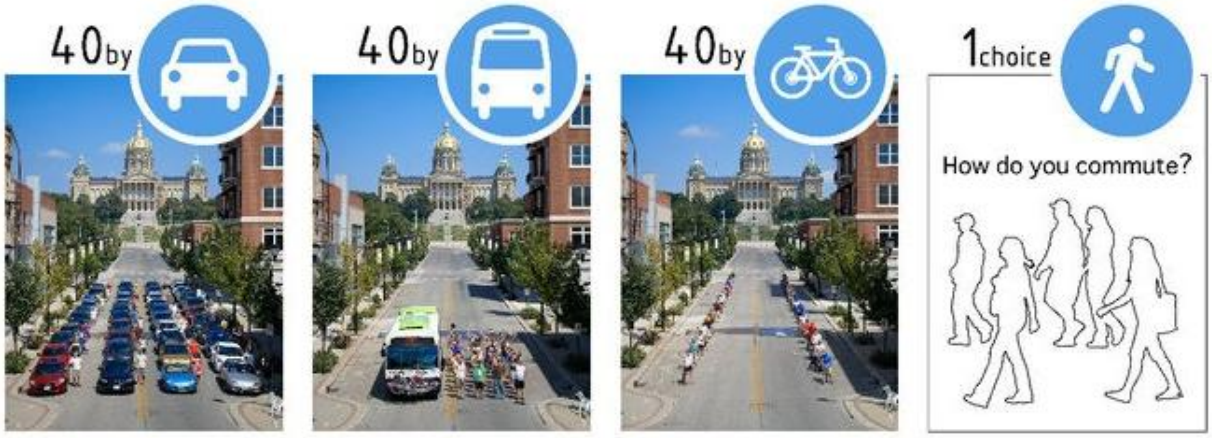
One of the primary benefits of introducing Complete Streets is the ability to promote alternative modes of transportation outside of the single occupancy vehicle. Studies have shown that most automobile trips in the U.S. are short distance in nature. Although 25% of all trips are less than 1 mile, 75% of these short trips are made by automobile.[9] By providing more choices – such as bicycle, pedestrian, and transit – Complete Streets can effectively reduce the number of single occupancy vehicles and congestion associated with them.

"Along with bike lanes and sidewalks, I think planting trees and providing adequate shade for aesthetics/air quality/ comfort would greatly improve walkability in our city."

Public Comment

A number of studies have shown that the reduction in vehicular traffic can have a definitive effect on roadway congestion. The photo below (**Figure 5**), taken in Des Moines, Iowa, shows the roadway congestion improvements from reducing 40 single occupancy vehicles to one 40 passenger bus or 40 bicycles.[10] By moving people from one mode of travel to another less congestive mode of travel is vital to maintaining acceptable travel levels of service in the face of increasing vehicle traffic volumes.

Figure 5 – Roadway Capacity Impacts by Mode Type



2.2.3. Economics/Business Growth[11]

There is limited information available for the direct economic impact of Complete Streets on the surrounding community. The observed impacts are very location based, and many benefits are realized as a combination of Complete Streets, Smart Growth, and development policies are enacted in conjunction with one another. There are a number of case studies that have been reported, which show a potential correlation between improved economic vitality and the introduction of Complete Streets.

[9] Nationwide Personal Transportation Survey. Federal Highway Administration, U.S. Department of Transportation, 1995

[10] www.tobinbennett.com, Des Moines, Iowa- August 2010. More info at www.facebook.com/Urban.Ambassadors

[11] http://www.smartgrowthamerica.org/documents/cs/factsheets/cs-economic.pdf

- Data shows that streets are usually safer after the introduction of Complete Streets elements, with reduced collision rates and fewer injuries as well. Based on average crash cost data, Complete Streets could reduce costs by billions of dollars annually nationwide.
- Data also shows that Complete Streets projects encouraged more multimodal travel, on foot, bicycle, and transit. This reduction in single occupant vehicle traffic can have considerable savings on the maintenance and operating budgets for cities and departments of transportation annually.
- Data also shows that when compared to traditional roadway redesigns, Complete Streets projects can be considerably less costly. Some Complete Streets elements can cost a few thousand dollars compared to corridor redesigns that cost upwards of several million. And comparatively, these projects can have the same direct benefits in terms of safety and congestion reduction.
- Complete Streets can enhance the vitality of the corridor and surrounding areas, improving employment, property values, and business activity. While the data is anecdotal, the introduction of Complete Streets along with investment in redevelopment and community improvement can stimulate growth and activity tremendously.

2.2.4. Sustainability[12]

The sustainability impacts of Complete Streets include reducing street widths, improving landscaping, and reducing traffic and congestion. The introduction of singular or combined complete streets elements can have a significant impact on the surrounding environment and sustainability. Along Reno and Sparks corridors, these elements could prove especially valuable for the community.

Wide streets can create problems with drainage and land consumption. With the implementation of Complete Streets, the roadway width can be managed or narrowed, providing more area for natural planting or growth adjacent to or within the roadway. Road narrowing can provide both environmental and safety benefits, as well as improved mobility through the introduction of pedestrian and cycling amenities. The reduction in paved areas also helps to reduce the urban heat island effect, as well as improving air quality.

The introduction of landscaped areas adjacent to and within the roadway can be particularly effective in the improvement of community sustainability. Elements could include bioswales, planters, rain gardens, or street trees, all of which improve stormwater runoff quality. Landscaping through access management also improves the roadway environment, provides opportunities for safety improvements, and provides opportunities for roadside vegetation.

Probably the most substantial environmental impact is the reduction of traffic and congestion and the environmental impacts associated with them. The introduction of alternative travel modes helps to remove single occupancy vehicle traffic, which is the most significant source of greenhouse gas emissions in the United States. The introduction of more walking and cycling trips could have the effect of reducing 12 to 22 million tons of greenhouse gases in the United States every year. If transit services and ridership are enhanced, the reduction could rise as high as 37 million metric tons per year.

[12] http://www.smartgrowthamerica.org/complete-streets/implementation/factsheets/green-streets/

2.2.5. Livability/Aesthetics (vibrant, less crime, energetic, etc.)[13]

Complete Streets can also have the added benefit of improving a community's livability. The improvement of access choices can provide greater connections to a variety of housing, shopping, recreation, and transportation within the community. The introduction of Complete Streets provides more affordable and safe options for transportation, which has the direct benefit of improving access to all of these elements. In particular, Complete Streets can have the direct impacts to improved access in the community, increasing the livability of an area:

> ***"Thanks for hosting this workshop so we could see the plans and contribute. The Nevada Cancer Coalition supports Complete Streets Policy and walkable/bikable/rollable communities as an important part of cancer prevention and control. Thank you!"***
>
> **Public Comment**

- Improved sidewalks and bike routes encourage more healthy and active lifestyles among residents of all ages, improving public health.
- Complete Streets can provide children with opportunities to reach nearby destinations in a safe and supportive environment.
- Introducing a variety of transportation options allow everyone – particularly people with disabilities and older adults – to get out and stay connected to the community.
- Multi-modal transportation networks help communities provide alternatives to sitting in traffic.
- A better integration of land use and transportation through a Complete Streets process creates an attractive combination of buildings, houses, offices, shops, and street designs.
- Pedestrian safety can be improved through the introduction of better sidewalks, raised medians, slower traffic, and better access to transit, increasing an area's walkability
- Complete Streets can reduce carbon emissions and are an important part of a climate change strategy, improving the ability for residents to live and enjoy a community.
- Enhanced streetscapes improve the aesthetics of roadway corridors, improving the general ambiance and increase the draw of pedestrians and bicycle riders.

2.3. Considerations

It was noted by the TAC that there are maintenance impacts associated with the implementation of Complete Streets. Providing bike lanes adds striping and signage to the roadways that need to be maintained. This point should be considered and planned for as part of the analysis of any Complete Streets improvement project.

[13] http://www.smartgrowthamerica.org/documents/cs/factsheets/cs-livable.pdf

3. LITERATURE REVIEW

The following sections describe national complete streets guiding documents along with local efforts with respect to complete streets.

3.1. Guiding Documents

There are several guiding documents in use today that govern the policy, design, and practice of implementing Complete Streets. These are discussed in the following sections and were utilized in varying extents throughout the life of this project to define design parameters for the implementation of complete street concepts along Reno and Sparks corridors.

3.1.1. AASHTO Green Book

The American Association of State Highway and Transportation Officials (AASHTO) A Policy on Geometric Design of Highways and Streets (Green Book) documents standards for designing geometric alignment, defining street, lane, and shoulder width, designing medians, and evaluating other street features. The Green Book is intended to apply only to streets and roads that are part of the National Highway System (NHS), including Interstates, principle interstate connections, and roads important for strategic defense. This network of streets only comprises about 4% of all roadway miles in the U.S. However, some communities and governing agencies tend to apply the guidance and recommendations of the Green Book to all street types.

The Green Book provides standards for roadway design focused on safe and efficient use of roadways. However, for the implementation of Complete Streets, the standards in the AASHTO guidebook need to be reviewed and vetted against more flexible design standards. In fact, AASHTO has a separate publication, A Guide to Achieving Flexibility in Highway Design for this very purpose. Often times, the traditional standards in the Green Book may not be complimentary to Complete Streets design and the governing agency will need to make decisions to incorporate more flexibility, which is well within the guidance of AASHTO and other governing agencies.

3.1.2. Manual on Uniform Traffic Control Design (MUTCD)

The MUTCD provides industry standards and guidance for the design and application of traffic control devices. These devices include roadway markings, traffic signs, and traffic signals. The FHWA governs use and application of MUTCD principles. Unlike guidance from AASHTO's Green Book, local agencies are very limited in their ability to deviate from the standards found in the MUTCD. The MUTCD does provide some flexibility within its guidance, including for elements like standard traffic control devices, use of custom sign legends for unique situations, traffic sign sizes, and sign placement specifics.

The MUTCD establishes warrants for the use of traffic control devices. Stop signs, traffic signals, and flashing beacons are expected to meet minimum thresholds before implementation. The thresholds include number of vehicles, number of pedestrians or other users, distance to other devices, crash history, and more. The application of traffic control devices, especially pedestrian safety devices can sometimes be limited by these warrants, even though they provide a perception of safety improvements along the corridor.

Throughout this report and in the analysis that accompanied this study, the project team utilized the guidance in the MUTCD to evaluate traffic and pedestrian signal improvements, as well as warrants and levels of service for subsequent proposed improvements. The guidance found in

the MUTCD was utilized extensively in the application of Complete Streets concepts along the corridor.

3.1.3. NACTO Urban Street Design Guide

The NACTO Urban Design Guide provides design policies and strategies for 21st century streets, with the intention of designing streets for more than just vehicles, but also people, bicycles, and transit. The design guide provides guidance and examples that are based on national and international best practices in urban design, engineering, and transportation planning. When used in conjunction with design guidelines such as the Green Book and the MUTCD, the final design should be more rooted in good urban design and context sensitive principles. The design guide says the following about interaction with other manuals:

- While AASHTO's A Policy on Geometric Design of Highways and Streets provides a general discussion of street design in an urban context, the Urban Street Design Guide emphasizes city street design as a unique practice with its own set of design goals, parameters, and tools.
- In instances where a particular sign or marking should be used, the guide highlights its specific reference to the MUTCD.

3.2. Overview of Complete Streets in Washoe County

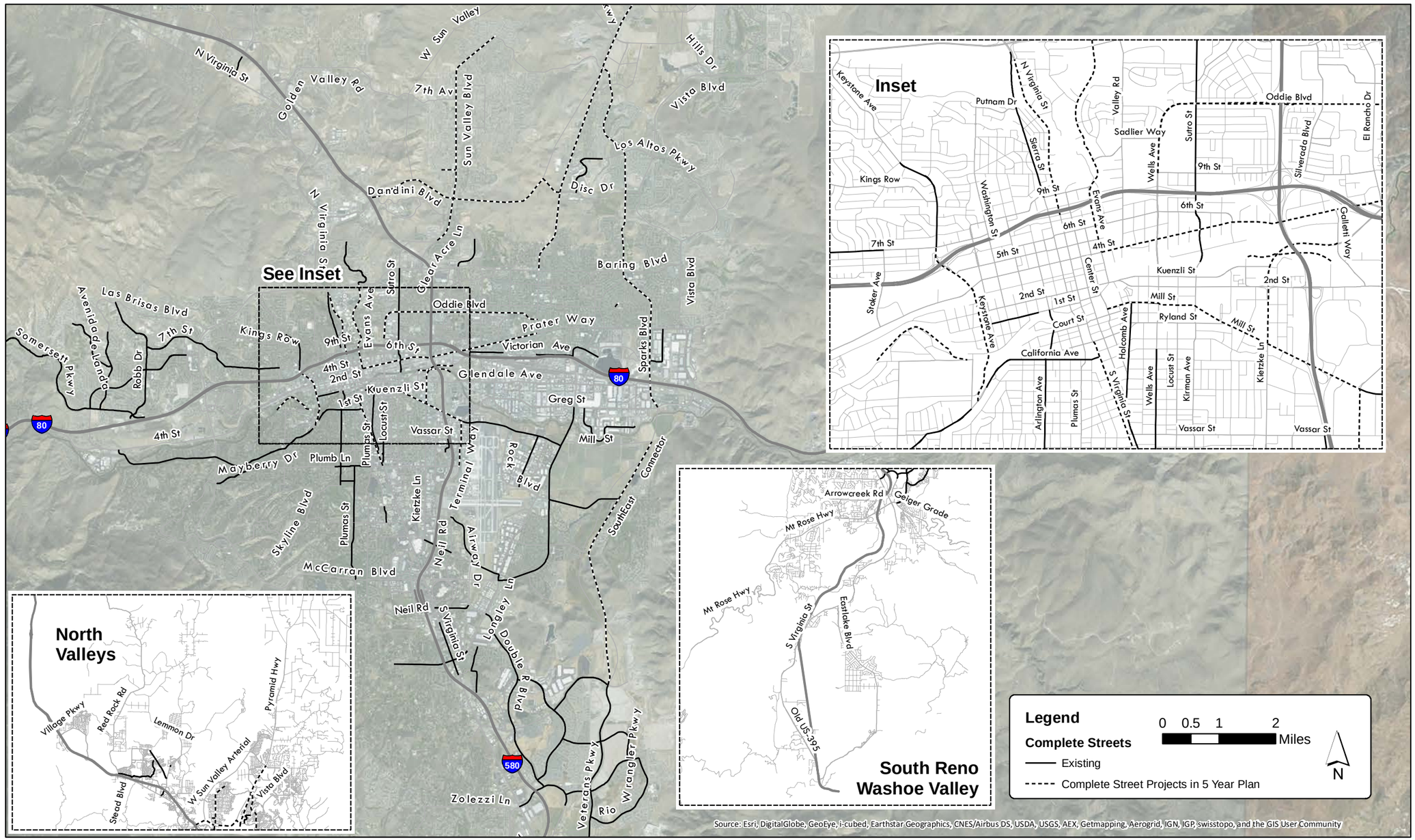
Complete streets are not a new concept in Washoe County. The RTC has actively been implementing and planning for complete streets throughout Washoe County since 2008. As detailed in **Section 2.2.1**, many streets in Washoe County have had substantial safety improvement due to the implementation of Complete Streets. **Figure 6** contains a summary of the existing and planned complete streets throughout Washoe County.

"RTC you guys have been doing a great job of implementing road diets/complete streets. We thank you for your efforts."

Public Comment

As part of the preparation of the Complete Streets Master Plan, 16 studies regarding, applicability, design and the practice of implementing complete streets in the Reno/Sparks area were reviewed. Each of the reports is briefly summarized in this section, including the applicability of each study to the Complete Streets Master Plan. RTC Washoe has been proactive in studying, analyzing and implementing complete streets throughout Washoe County. Dozens of complete streets projects have been implemented and various complete streets projects are included in the current Regional Transportation Improvement Program (RTIP).

Figure 6 – Existing and Planned Complete Streets



3.2.1. 4th Street/Prater Way Bus RAPID Transit Project (Construction 2017)



This project includes a new bus RAPID transit route, called the RTC Lincoln Line, as well as comprehensive complete street improvements on 4th Street and Prater Way from Evans Avenue to Pyramid Way. The RTC Lincoln Line will be the nation's first all-electric BRT, and is expected to open in 2019. Plans for 4th Street and Prater Way also involve undergrounding utility lines, planting trees, making the area accessible to everyone under the Americans with Disabilities Act (ADA), widening sidewalks, and adding new bike lanes.

3.2.2. SouthEast Connector (Under Construction)



This project includes construction of a new 5.5 mile arterial road, seven bridges, two signalized intersections, and a multi-use path for recreational users. This project also includes environmental and safety enhancements. The following are some of the benefits that the project will include: providing an additional and much needed regional north-south route, improving connectivity within the south and east Truckee Meadows for all modes of travel; providing new bicycle and pedestrian access in the corridor, and enhancing safety for all modes of travel. Construction is expected to be completed in 2017.

3.2.3. Sun Valley Boulevard Corridor Study (2015)

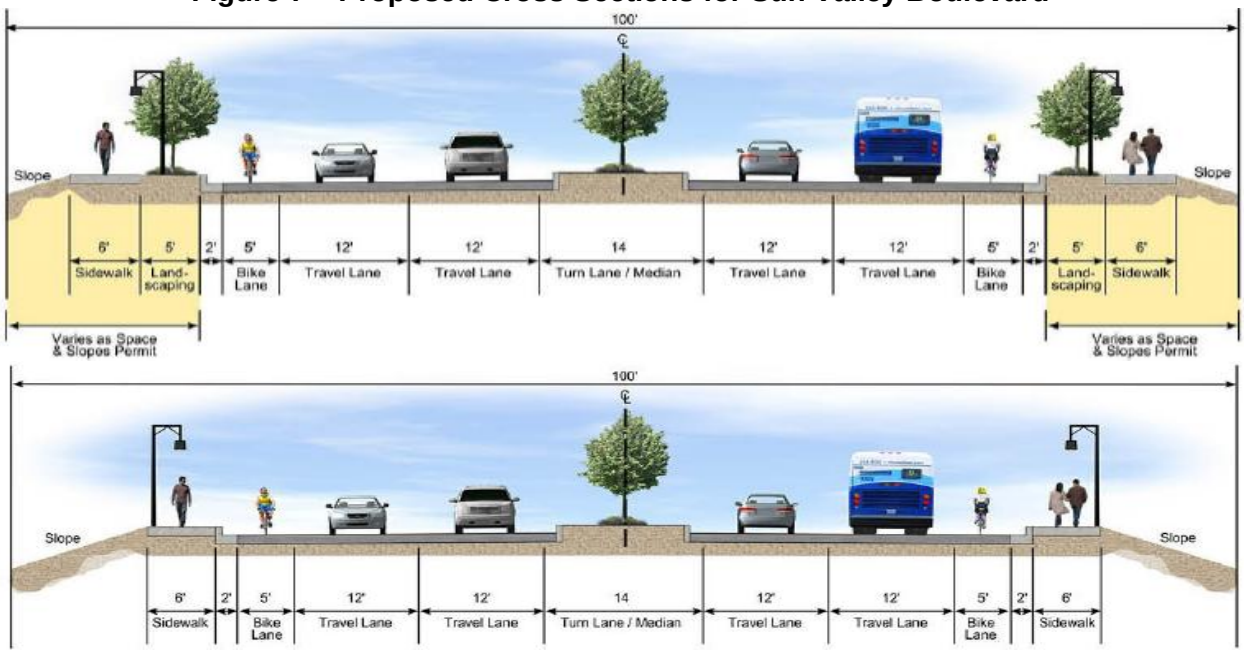
As part of this corridor study, public outreach guided the establishment of goals for the improvements to the corridor. These goals include providing safe pedestrian access throughout the corridor, expanding transit services, improving bicycle facilities, increasing access to adjacent neighborhoods, providing infrastructure improvements to generate private investment, and provide safe travel through the corridor for all modes of transportation. Recommendations for this corridor include:

- Installation of pedestrian and wheelchair facilities, bicycle facilities, and transit stops between Crystal Lane and El Rancho Drive/Dandini Boulevard.
- Pedestrian and wheelchair facilities, bicycle facilities, pedestrian crossings, and improvements to the 1st Avenue and 7th Avenue intersections were recommended between El Rancho Drive/Dandini Boulevard and 7th Avenue.

- Pedestrian and wheelchair facilities and bicycle facilities between 7th Avenue and Highland Ranch.

The recommendations found in this study provide street improvements similar to those that could be considered for roadways in the Complete Streets Master Plan. **Figure 7** illustrates sample cross sections for the corridor.

Figure 7 – Proposed Cross Sections for Sun Valley Boulevard

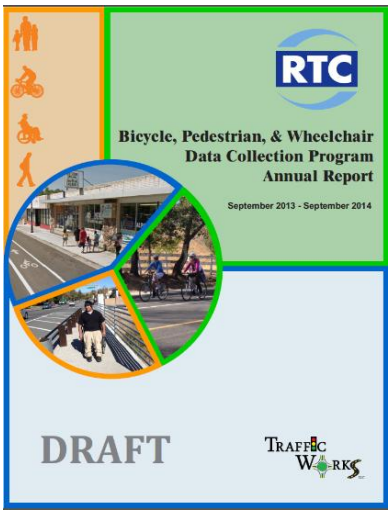


Source: Sun Valley Boulevard Corridor Study

3.2.4. Sparks Boulevard Multimodal Corridor Study (2015)

This study provided three alternatives to manage traffic growth through 2035 along Sparks Boulevard. Alternative traffic operations were analyzed based on recommended roadway widening alternatives, including pedestrian and bicycle improvements. Transit improvements were recommended to increase safety and increase the use of public transit services. Sparks Boulevard currently provides recreational multi-use paths, but the recommendations found in this study will enhance these facilities to provide Complete Streets enhancements to the corridor. Recommendations were made to include bicycle and pedestrian facilities for the full length of the roadway and increase motor vehicle capacity between Prater Way and I-80.

3.2.5. Bicycle, Pedestrian, & Wheelchair Data Collection Program Annual Report (2015)

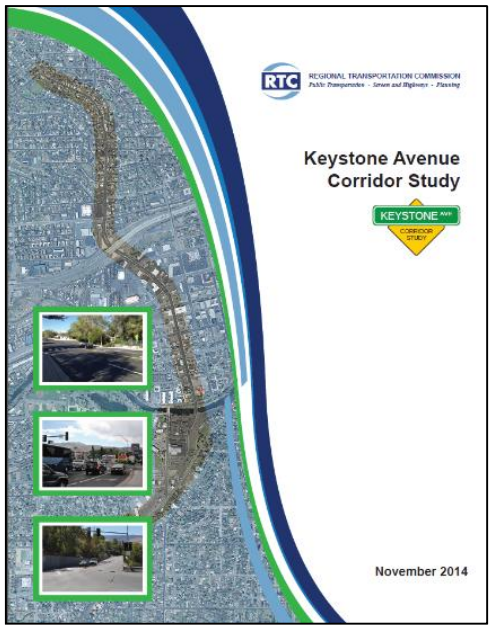


This annual report describes the data collection of bicycle, pedestrian, and wheelchair users throughout Reno, Sparks, and Washoe County. This report summarizes thirty-eight locations for quarterly data collection from September 2013 to September 2014. This report affirms that Complete Streets designs boost walking and biking throughout the region. The report shows that roads with sidewalks have a pedestrian mode share 10 times greater than roads without sidewalks and roads with bike lanes have more than twice the bicycle mode share as compared to roads without bike lanes. It was also determined that the highest bicycle volumes were observed on 1st Street/Ralston Street and the highest pedestrian volumes were observed on 4th Street/Evans Avenue. The data from this study was reviewed as part of the Complete Streets Master Plan

3.2.6. Virginia Street Corridor Investment Plan (2013)

The *Virginia Street Corridor Investment Plan* investigated existing conditions, community assets, and opportunities on the Virginia Street Corridor from North McCarran Boulevard to Mt. Rose Highway. The study focused on identifying areas where mobility and accessibility could be well balanced. The recommendations of this plan include safety improvements between Maple Street and Liberty Street, Liberty Street and Plumb Lane, Plumb Lane and Patriot Boulevard, and between Patriot Boulevard and Mt. Rose Highway. Recommendations for multi-modal improvements encompassed the areas between North McCarran Boulevard and Maple Street, Liberty Street and Plumb Lane, and Patriot Boulevard and Mt. Rose Highway. Extension of RAPID transit service to the University of Nevada Reno (UNR) is currently under development including pedestrian enhancements in the Midtown District.

3.2.7. Keystone Avenue Corridor Study (2014)



The *Keystone Avenue Corridor Study* included data collection and analysis of existing conditions to identify deficiencies and provide the development of alternatives for the corridor. Public outreach meetings were beneficial in establishing the goals to be implemented along this corridor. The recommendations for this corridor include the improvement to intersections, striping configurations, modification to bridge structures, access management improvements, and transit improvements. This study is relevant to the Complete Streets Master Plan as it addresses improvements for all modes of transportation along this corridor. Bike lanes, improved crosswalks and sidewalks were constructed between University Terrace and Colemand Avenue in 2015.

3.2.8. Complete Streets Economic Analysis: A Respondent's Survey Assessment Report (2013)

This report contains the results of a survey conducted at four Complete Streets locations within the Reno-Sparks area. Conducted in June and July 2013, the survey solicited economic opinions from residents and business owners. The surveys were sent to 1,500 residents and 1,000 businesses; from these 285 resident surveys and 106 business surveys were returned. The purpose of the study was to determine if economic benefits were perceived after complete street corridor improvements were implemented in Reno-Sparks. Findings from the surveys are presented below:

- Resident Surveys
  - Residents had a positive view of the current state and potential for improvement of their neighborhood
  - Positive outlook towards a variety of transportation options
  - Neutral view on crime in the area
- Business Surveys
  - The majority of respondents noted that traffic volumes had changed in conjunction with major roadway improvements
  - Some businesses believed the recession created a decline in revenue, while 63% indicated that revenue remained the same or showed improvements since the recession
  - Respondents believed that street appearance along with ambiance and physical beauty were very important

Findings from this study provided insight on what locals believe Complete Streets projects can accomplish for the Reno-Sparks area.

3.2.9. Mill Street/Terminal Way Corridor Study (2013)

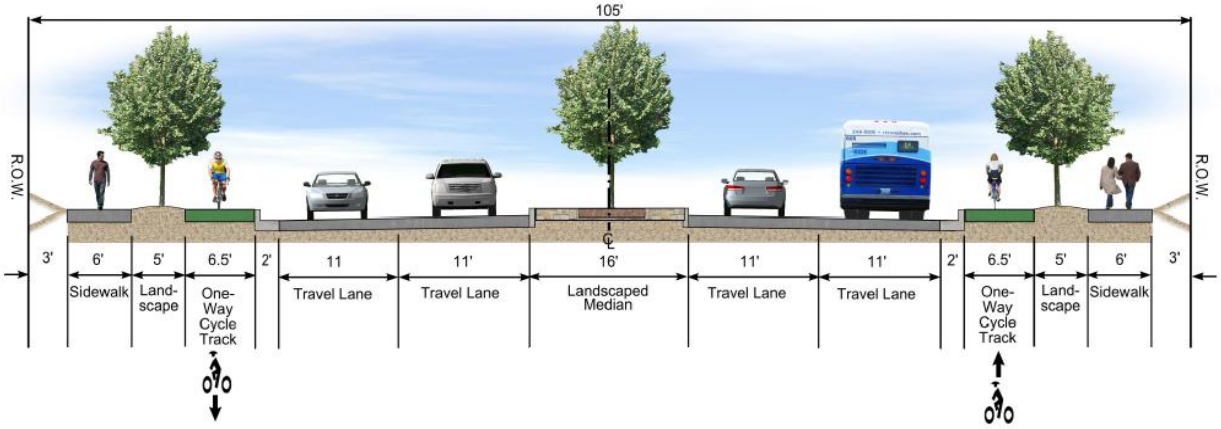
The purpose of this study was to identify and evaluate potential multi-modal transportation improvements that coordinate effectively with adjacent planned and existing land use, and future redevelopment. The study identified existing and future conditions along the corridor, including traffic analyses, safety issues, right-of-way, land use, transit, bicycles, pedestrians, and access control. Public workshops were held to determine which of the following priorities were most important to the residents: bicycle, pedestrian, and transit mobility; safety; automobile mobility; aesthetics/attractiveness; and economic vitality. Bicycle, pedestrian, and transit mobility as well as safety were chosen as the two most important goals by the public. Recommended improvements include sidewalks enhancements, the extension of bike lanes, and a roundabout at the Mill Street/Ryland Street/Renown Regional Way intersection.

3.2.10. Oddie Boulevard/Wells Avenue Corridor Study (2013)

This study identifies and provides solutions for the incorporation of multi-modal travel along the Oddie Boulevard/Wells Avenue corridor. Since a portion of the corridor is located in the City of Sparks, the study and improvements were planned in conjunction with the redevelopment that was underway in the City of Sparks. The public outreach efforts included monthly technical advisory committee meetings, several stakeholder focus group meetings, two public open houses and online feedback through the project website. The input provided in these meetings was crucial in establishing the goals and preferred alternative improvements for the corridor. The

recommendations made in this study will provide pedestrian and bicycle facilities throughout the majority of the corridor. One recommended design will provide pedestrian and bicycle facilities that are separated from the travel lanes; this design is to be implemented between Sutro Street and Rock Boulevard similar to what is illustrated in **Figure 8**. The design will provide elevated one-way bicycle tracks along both sides of the street with landscaping providing a barrier between the pedestrian and bicycle paths. Other areas along the corridor will have bike lanes with a wide striped buffer.

Figure 8 – Proposed Cross Sections for Oddie Boulevard



Source: Oddie Boulevard/Wells Avenue Corridor Study

3.2.11. Sutro Complete Street (Constructed 2013)

This neighborhood enhancement project included Complete Streets elements to create a walkable community, improve safety for all users, provide a healthy environment for pedestrians and bicyclists, and enhance the quality of life for residents. New sidewalks, enhanced bus stops, bike lanes, and a new traffic signal were installed. The project serves the Washoe County Senior Center, Health District offices, and Washoe County administrative offices and provides enhanced multimodal access to essential services. Pedestrian and bicycle activity in this area has increased since completion of the project, with an average of over 50 bicyclists and 175 pedestrians recorded using the facility during each RTC quarterly bicycle and pedestrian count period.

3.2.12. Road Diet Study: California Avenue/Mayberry Drive, South Arlington, and Mill Street (2012)

Road diets (lane reductions) completed on three road segments in Reno were the subject of this study. These segments include California Avenue/Mayberry Drive, Mill Street, and Arlington Avenue. This report was completed in 2012 and included analysis of crash data, traffic volumes speeds, and bicycle and pedestrian volumes. The findings from this study include:

- The number of crashes at the three locations decreased.
- An overall reduction or no change in volume was observed on most sites.
- A reduction in speed was observed for most locations.

This study is relevant to the Complete Streets Master Plan because it shows how roadway modifications can be made in order to provide for different modes of transportation without sacrificing the efficiency of the roadways.

3.2.13. Road Conversion Study: Lakeside Drive, Fifth Street, and First Street (2011)

The Road Conversion Study: Lakeside Drive, Fifth Street, and First Street collected and analyzed data on three roadway segments planned for Complete Streets improvements. This study provided a baseline for later comparison with roadway modifications. The process included 24-hr traffic volumes, spot speed counts, bicycle and pedestrian counts, and the operational analysis of the intersections within the three roadway segments.

Operational analysis on the proposed configurations of the roadways was conducted as part of the study. The findings indicate that side streets along Lakeside Drive would observe minor increase in delay and queue length for the right turning movements but overall all intersections would have a level of service of B or better, indicating an acceptable condition.

3.2.14. Reno/Sparks Bicycle & Pedestrian Master Plan (2011)

The *Reno/Sparks Bicycle & Pedestrian Master Plan* is a guide providing a comprehensive system for non-motorized modes of travel. The *Master Plan* consists of the following six goals:

- Support walking and bicycling and the development of a comprehensive bicycle and pedestrian transportation network that connects to other transportation modes, meets the needs of all users, and creates a viable alternative to the automobile in order to increase the number of people bicycling and walking to work to 10 percent by 2040.
- Maintain the aesthetic appeal, cleanliness, and functionality of the existing infrastructure with regular ongoing maintenance, as well as major rehabilitation efforts.
- Develop and implement an education and enforcement program that will reduce the number of bicycle and pedestrian collisions each year with the ultimate goal of zero collisions.
- Maximize the amount of State and Federal funding for bicycle and pedestrian transportation improvements for which Reno, Sparks and Washoe County are eligible by identifying and aggressively pursuing grants each year, and by including bicycle and pedestrian improvements in all transportation projects.
- Develop a well-connected bicycle and pedestrian network that integrates with public transportation.
- Encourage project sponsors to consider the needs of bicyclists and pedestrians when designing, reviewing, and approving all development and transportation projects and accommodate those needs, whenever possible.

Various proposed projects are listed within the plan and were considered during the analysis portion of the Complete Streets Master Plan.

3.2.15. Complete Streets – A Guide to Road Diets and Lane Widths (2010)

The *Complete Streets - A Guide to Road Diets and Lane Widths*, prepared by UNR, provides guidelines to plan and design complete streets with specific interest for road diets and lane widths. This report recommends a six-step process for complete streets planning as outlined below:

- Define existing and future land use and urban design context
- Define existing and future transportation context
- Identify any deficiencies
- Describe future objectives
- Recommend street classification and testing of initial cross-sections

- Describe tradeoffs and select cross-sections

Recommendations found in this guidance were used in the development of the Complete Streets Master Plan.

3.2.16. Wells Avenue Traffic Study (2008)

The *Wells Avenue Traffic Study* compared the before and after conditions of Wells Avenue from Stewart Street to South Virginia Street as roadway modifications on Wells Avenue were made. Specifically this study identified the changes in traffic flow due to the roadway configuration. In comparing the before and after data it was determined that the changes made to Wells Avenue provided various safety improvements. The findings from the study are:

- A 31% reduction in crashes was observed along the corridor after the roadway conversion
- Majority of crash reductions involved rear-end, angle, and overtaking/ sideswipe crashes
- The road modification provided for a safer pedestrian environment
- Traffic volumes and speeds were reduced along the corridor
- The level of service was not negatively impacted by the roadway modification

4. AGENCY AND COMMUNITY OUTREACH

This section describes the outreach of the project team in developing the Complete Streets Master Plan both to local agencies as well the general public.

4.1. Technical Advisory Committee (TAC)

A TAC was developed to help guide the project and obtain feedback from agencies. The following agencies were represented on the TAC:

- City of Reno
- City of Sparks
- Federal Highway Administration (FHWA)
- Nevada Department of Transportation (NDOT)
- Regional Transportation Commission (RTC)
- Reno Access Advisory Committee

Meetings were held throughout the project with the TAC to gain feedback on locations of existing complete streets, identify locations for the LOS analysis, obtain input on the evaluation criteria, and review project recommendations.

4.2. Public Community Meetings

Four community meetings were held to solicit public comments on the Complete Streets Master Plan.

- Tuesday, September 29, 2015, 5:00 – 7:00 PM, RTC Centennial Plaza, Sparks
- Tuesday, October 13, 2015, 5:00 – 7:00 PM, Discovery Museum, Reno
- Wednesday, February 17, 2016, 5:00 – 7:00 PM, Dilworth Middle School, Sparks
- Tuesday, February 23, 2016, 5:00 – 7:00 PM, Discovery Museum, Reno

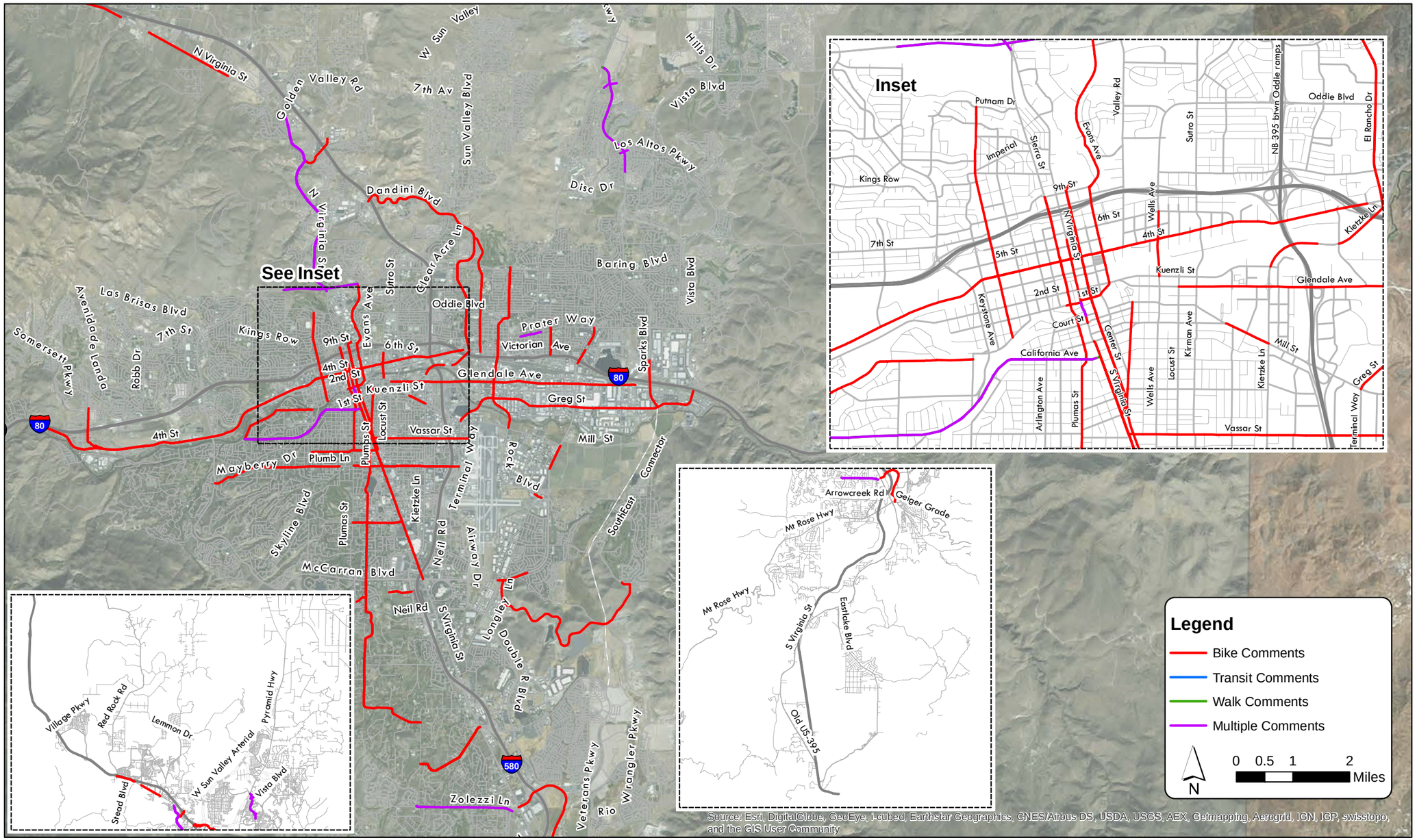
"The best thing about this meeting is I felt like we got together with the bicyclists and they understood our side: that we're not against bicyclists, that midtown business owners and bicyclists need to work together. That was the best part of the meeting. And we need to come up with creative solutions to have a really great street. We do not want midtown to look like Moana or Wells or even downtown Reno or Kietzke. That we want a funky, eclectic, great street that you can have many turns into many businesses so we all thrive."

Public Comment

The first set of community meetings conducted in the fall of 2015 were held to introduce the project, provide information on complete streets, and gather input from attendees on locations in need of complete streets. A copy of the presentation boards and comments received at the meeting are included in **Appendix A**. Complete Streets comments related to specific to roadways were geocoded and are summarized in **Figure 9**.

In February 2016, another set of community meetings were held to summarize the project, present the recommendations, and gather any additional feedback from meeting attendees. A copy of the public meeting presentation and comments received at the meeting are included in **Appendix B**.

Figure 9 – Map of Complete Streets Comments from 2015 Public Meetings



5. LEVEL OF SERVICE ANALYSIS

In recent years, the RTC has received questions regarding the impacts that lane reduction complete streets projects have on side street vehicular turning movements at unsignalized locations. As part of this project, a LOS comparison analysis was conducted at five unsignalized locations where complete streets projects have recently been implemented.

This section provides a summary of the LOS analysis conducted at the five unsignalized locations where complete streets projects that resulted in lane reductions have recently been implemented and compares the analysis to the same locations considering the condition prior to the implementation of the complete streets project. It is important to note that the LOS analysis conducted at these locations only takes into account vehicular movements and does not take into account the benefits of complete streets for pedestrians, bicyclists, and other roadway users. Also, it does not quantify the other benefits of complete streets (safety, improved mode choice, economic growth, public health, etc.)

5.1. Study Intersections

The following intersections were selected by the TAC to be included for analysis:

- City of Reno
  - 11th Street/Sutro Street (#1)
  - Taylor Street/Wells Avenue (#2)
  - Mayberry Drive/Keele Drive (#3)
- City of Sparks
  - Victorian Avenue/19th Street (#4)
  - Nichols Boulevard/Pine Meadows Drive (#5)

5.2. Existing Turning Movement Counts

Existing AM and PM peak hour turning movement counts were conducted at the study intersections. **Table 2** provides a summary of the intersections and dates of the turning movement counts. Bicycle and pedestrian counts were recorded in addition to vehicle counts, at all five intersections, and it is important to note that all intersections experienced pedestrian and bicycle activity in every 15-minute period counted.

Table 2 – Peak Hour Turning Movement Count Dates

Intersection	Count Date
11th Street/Sutro Street (#1)	Wednesday, September 23, 2015
Taylor Street/Wells Avenue (#2)	Tuesday, September 22, 2015
Mayberry Drive/Keele Drive (#3)	Tuesday, September 22, 2015
Victorian Avenue/19th Street (#4)	Wednesday, September 23, 2015
Nichols Boulevard/Pine Meadows Drive (#5)	Thursday, September 24, 2015

The vehicle, bicycle and pedestrian count data is provided in **Appendix C**.

5.3. Level of Service Analysis

Analyses were conducted at the identified study intersections prior to and after the geometric reconfiguration to accommodate complete streets. The "after" scenario represents the existing conditions and the "before" scenario represents the past geometry, prior to the implementation of complete streets.

5.3.1. Analysis Methodology

The study intersections were analyzed based on average total delay analysis for unsignalized intersections presented in the Transportation Research Board's 2010 "Highway Capacity Manual" (Special Report 209). Under the unsignalized analysis, the LOS for a two-way stop controlled intersection is determined by the computed or measured control delay and is defined for each minor movement. LOS for a two-way stop-controlled intersection is not defined for the intersection as a whole. **Table 3** defines the definition of LOS for unsignalized intersections.

Table 3 – Level of Service Definitions for Unsignalized Intersections

Level of Service	Unsignalized Intersection Average Total Delay (sec/veh)
A	10
B	>10 and ≤15
C	>15 and ≤25
D	>25 and ≤35
E	>35 and ≤50
F	>50

Definitions provided from the Highway Capacity Manual, Special Report 209, Transportation Research Board, 2010.

Synchro 9 Traffic Analysis Software was used to analyze the study intersections for LOS. Synchro is an interactive computer program that enables planners and engineers to forecast the traffic impacts of new developments, conduct area-wide traffic forecasting studies, test different mitigation measures, and compare different traffic scenarios. Synchro 9 utilizes the 2010 Highway Capacity Manual (HCM) methodology to analyze intersection delay and LOS.

5.3.2. Intersection Operational Analysis

Calculations for the LOS at the intersections are provided in **Appendix D**. The "before" complete streets implementation analysis was conducted assuming there were two through lanes in each direction on the major street prior to the implementation of the complete streets project. The "after" complete streets analysis was conducted using the existing lane configuration and control at the study area intersections. **Table 4** through **Table 8** presents the results of the LOS analysis at the study intersections.

Table 4 – 11th Street/Sutro Street (#1) LOS Analysis

Time of Day	Movement	Number of Vehicles	Before Complete Streets Implementation		After Complete Streets Implementation		Change in LOS
			Delay (s)	LOS	Delay (s)	LOS	
AM	NBL	41	10.0	A	9.9	A	No
	SBL	19	8.2	A	8.2	A	No
	EB	23	18.5	C	23.6	C	No
	WB	33	14.0	B	19.6	C	Yes (5.6 sec)
	% with LOS D or better	1,045*	100%		100%		
PM	NBL	11	8.0	A	8.0	A	No
	SBL	3	9.1	A	9.1	A	No
	EB	74	20.1	C	38.0	E	Yes (17.9 sec)
	WB	13	16.1	C	19.2	C	No
	% with LOS D or better	1,000*	100%		92.6%		

** Represents all peak hour vehicles.*

Table 5 – Taylor Street/Wells Avenue (#2) LOS Analysis

Time of Day	Movement	Number of Vehicles	Before Complete Streets Implementation		After Complete Streets Implementation		Change in LOS
			Delay (s)	LOS	Delay (s)	LOS	
AM	NBL	3	8.8	A	8.7	A	No
	SBL	84	8.4	A	8.4	A	No
	EB	13	17.7	C	20.3	C	No
	WB	50	17.2	C	20.3	C	No
	% with LOS D or better	1,070*	100%		100%		
PM	NBL	13	8.8	A	8.8	A	No
	SBL	34	9.5	A	9.5	A	No
	EB	8	29.6	D	47.3	E	Yes (17.7 sec)
	WB	140	32.9	D	60.4	F	Yes (27.5 sec)
	% with LOS D or better	1,497*	100%		90.1%		

** Represents all peak hour vehicles.*

Table 6 – Mayberry Drive/Keele Drive (#3) LOS Analysis

Time of Day	Movement	Number of Vehicles	Before Complete Streets Implementation		After Complete Streets Implementation		Change in LOS
			Delay (s)	LOS	Delay (s)	LOS	
AM	SB	98	18.1	C	25.1	D	Yes (7 sec)
	EBL	55	8.4	A	8.4	A	No
	% with LOS D or better	945*	100%		100%		
PM	SB	91	24.8	C	35.7	E	Yes (10.9 sec)
	EBL	76	8.4	A	9.9	A	No
	% with LOS D or better	1,343*	100%		93.2%		

** Represents all peak hour vehicles.*

Table 7 – Victorian Avenue/19th Street (#4) LOS Analysis

Time of Day	Movement	Number of Vehicles	Before Complete Streets Implementation		After Complete Streets Implementation		Change in LOS
			Delay (s)	LOS	Delay (s)	LOS	
AM	NB	8	12.2	B	12.7	B	No
	SB	21	11.9	B	13.1	B	No
	EBL	5	8.3	A	8.3	A	No
	WBL	2	7.6	A	7.6	A	No
	% with LOS D or better	599*	100%		100%		
PM	NB	7	11.9	B	12.7	B	No
	SB	20	11.1	B	12.0	B	No
	EBL	9	7.8	A	7.8	A	No
	WBL	2	7.8	A	7.8	A	No
	% with LOS D or better	530*	100%		100%		

** Represents all peak hour vehicles.*

Table 8 – Nichols Boulevard/Pine Meadows Drive (#5) LOS Analysis

Time of Day	Movement	Number of Vehicles	Before Complete Streets Implementation		After Complete Streets Implementation		Change in LOS
			Delay (s)	LOS	Delay (s)	LOS	
AM	SB	36	9.1	A	9.3	A	No
	EBL	5	7.4	A	7.4	A	No
	% with LOS D or better	172*	100%		100%		
PM	SB	23	9.5	A	9.7	A	No
	EBL	11	7.5	A	7.5	A	No
	% with LOS D or better	289*	100%		100%		

** Represents all peak hour vehicles.*

5.4. Summary

LOS analysis was performed on the five study intersections. In the analysis, each intersection was analyzed for LOS using existing traffic volumes in both the after complete streets implementation and before complete streets implementation configuration. At these intersections, complete streets modifications included a lane reduction in both directions of travel, the addition of a Two-Way Left Turn Lane (TWLTL), bike lanes, as well as enhanced pedestrian facilities (if not already present). The following intersection approaches experienced a change in LOS with the implementation of a complete street:

- 11th Street/Sutro Street (#1)
  - Westbound AM
  - Eastbound PM
- Taylor Street/Wells Avenue (#2)
  - Westbound PM
  - Eastbound PM
- Mayberry Drive/Keele Drive (#3)
  - Southbound AM and PM

The percentage of vehicles experiencing a change in LOS during the peak hour at the intersections are as follows:

- 11th Street/Sutro Street (#1)
  - Westbound AM (33 vehicles or 3.1% of the intersection vehicles) LOS B to LOS C
  - Eastbound PM (74 vehicles or 7.4% of the intersection vehicles) LOS C to LOS E
- Taylor Street/Wells Avenue (#2)
  - Eastbound PM (8 vehicles or 0.5% of the intersection vehicles) LOS D to LOS E
  - Westbound PM (140 vehicles or 9.4% of the intersection vehicles) LOS D to LOS E
- Mayberry Drive/Keele Drive (#3)
  - Southbound AM (98 vehicles or 10.3% of the intersection vehicles) LOS C to LOS D
  - Southbound PM (91 vehicles or 6.8% of the intersection vehicles) LOS C to LOS E

Overall, a small percentage of the turning movements at three of the five locations were impacted by the complete streets improvement. It is important to note that the LOS does not take into account all users (pedestrians and bicyclists) at the locations, and in all instances pedestrians and bicyclists were observed using the intersections for transportation.

6. ANALYSIS FOR COMPLETE STREETS

The following sections describe the data collection and data analysis conducted to determine recommended locations for Complete Streets improvements within the Reno/Sparks Metropolitan Area.

6.1. Data Collection

This study is based on the use of innovative Geographic Information System (GIS) analysis tools and techniques to identify and quantify roadway characteristics and surrounding demographics to determine potential locations for complete street projects. GIS refers to a geospatial environment in which tabular data can be displayed and analyzed. This technology has been, and continues to be, utilized in the transportation industry as an effective analysis tool.

6.1.1. Geodatabase

Outlining existing conditions was an important first step in this study, as the results of this evaluation set the framework for analyzing and identifying opportunities for improvements in the network. This process started with the creation of a robust geodatabase. Data was outlined in various forms from state and local agencies. These individual datasets were processed and imported into a project geodatabase, which includes the following major elements:

- Street Centerlines
- Bicycle Facilities (Existing and Planned)
- Sidewalks
- Transit Stops
- Transit Routes
- Transit Ridership
- Roadway Volume Data – Average Annual Daily Traffic (AADT)
- Facility Type (Number of Lanes)
- Crash Data
  - Fatal and Serious Injury Crash Rate per MVMT (2009-2013)
  - Pedestrian and Bicycle Fatal and Serious Injuries
- Employment Centers/Employees
- Population
  - General
  - Low-Income
- Parks
- Elementary, Middle, and High Schools (Public and Private)
- Community/Senior Centers
- Medical Facilities (Hospitals, Urgent Care, Doctor Offices)

6.1.2. Existing Complete Street Inventory

After development of the geodatabase, a map containing the existing complete streets network inventory was developed and provided to the RTC and TAC for feedback and comments. This map includes existing complete streets along with future planned complete streets projects to be

implemented in the near future. The existing complete streets network inventory is located in **Figure 6**.

6.2. Data Analysis

The following sections describe the analysis that was conducted to identify and prioritize locations for consideration of complete street treatments. The methodology was presented and agreed to during the TAC meetings on September 3 and November 5, 2015. For each regional roadway segment, an evaluation score was calculated. Non-regional roadways and roadways with speed limits less than or equal to 25 miles per hour are generally residential streets and low volume roadways that are considered to be bikeable and walkable; therefore, they were not considered for complete streets improvements. Over 4,600 roadway segments were identified and included as part of the analysis.

6.2.1. Evaluation Score Criteria

This section describes the evaluation score components, why they were selected, how they were analyzed and the associated score. The evaluated components included bikeability, walkability, transit access, roadway characteristics, crash data, employment, population, public facilities and public input.

6.2.1.1. Bikeability

An easily identifiable element of most complete streets are bicycle facilities, whether they be shared-use lane markings, wide shoulders, marked bike lanes or parallel off-street facilities.


Moana Lane

A GIS analysis of existing bicycle facilities was used to determine the bikeability score. In order to quantify the bikeability of each segment within the regional road network, the criteria used was percent coverage of bikeable facilities, which was represented by the percent of the roadway segment within ¼ mile of existing bicycle facilities.

As shown in **Table 9**, if a roadway segment already had bicycle facilities present, or within ¼ mile, the segment received no points, meaning that the segment or a parallel roadway was already bikeable, whereas if no bicycle facilities were within ¼ mile, the segment received 5 points, showing the need for more bikeability along this segment as part of a potential complete streets improvement.

Table 9 – Bikeability Evaluation Score Summary

Percent of Segment within ¼ mile of Existing Bicycle Facilities	Number of Points
100%	0
80 – 100%	1
60 – 80%	2
40 – 60%	3
20 – 40%	4
0 – 20%	5
Maximum Score	**5**


Plumas Street

6.2.1.2. Walkability

An important element of complete streets is the ability of pedestrians to travel along a roadway and thus walkability, or the ability to comfortably access the roadway or adjacent land uses by foot, was included in the evaluation criteria.

Walkability of a segment was determined based on the sidewalk width along the roadway segment. The RTC collected and provided sidewalk width data throughout the study area, along regional roads. This data was used to assign points to each segment based on adjacent sidewalk width. A maximum of 5 points were awarded for walkability if the segment had no sidewalk, or a sidewalk present with width less than 4 feet, thus representing the need for walkability improvements along the segment. The walkability points were assigned as shown in **Table 10**.

Table 10 – Walkability Evaluation Score Summary

Sidewalk Width Along Roadway Segment	Number of Points
Greater than 6 feet	0
4 feet to 6 feet	3
Less than 4 feet	5
Maximum Score	5

6.2.1.3. Transit Access



Bluestone Drive

A complete street provides access for all users, including those who use transit. Transit access was included in the evaluation score to reflect the multimodal nature of the roadway segment because transit riders tend to also be pedestrians and/or bike riders before/after their transit ride.

Three components, each worth 5 points, created a composite transit access score: number of stops, presence of a transit route and transit ridership.

The number of transit stops within ¼ mile of the roadway segment was used to show access to transit along a route, with 5 points assigned to segments with 3 or more transit stops.

If a roadway segment had an existing transit route it was assigned 5 points, showing a potential need for transit access and complete street improvements. If no transit route was present along the segment, no points were awarded.

Where transit was present, transit ridership was evaluated to show an increased need for complete street improvements at these locations. A maximum of 5 points were assigned where ridership was highest.

A summary of evaluation score points and how they were awarded are included in **Table 11**.

Table 11 – Transit Access Evaluation Score Summary

Number of Stops within ¼ Mile of Roadway Segment	
Score Criteria	**Number of Points**
No Stops	0
1 Stop	1
2 Stops	3
3 or more Stops	5
Presence of a Transit Route along the Roadway Segment	
Score Criteria	**Number of Points**
No	0
Yes	5
Transit Ridership along a Roadway Segment	
Score Criteria	**Number of Points**
No transit	0
Less than 20% of the max	1
20 – 40%	2
40 – 60%	3
60 – 80%	4
80 – 100%	5
Maximum Score	15


Huffaker Lane

6.2.1.4. Roadway Characteristics and Crash Data

Roadway characteristics and crash data were evaluated to identify locations where complete streets could viably be implemented. While it is important to accommodate bicycles, pedestrians, and transit, roadways need to maintain capacity to serve personal vehicles as well. Various components were used to calculate this score including, traffic volume and crash history as summarized in **Table 12**.

Based on the RTC's planning threshold, 5 points were assigned if the AADT per lane was less than 9,000 vehicles per lane per day, which could be indicative of a roadway segment that may be more appropriate to decrease vehicle capacity and increase multimodal options.

Crash history from 2009 – 2013, as provided by the RTC, was used in two ways. Fatal and serious injury (Type K and Type A crashes) crash rates per million vehicle miles traveled (MVMT) were calculated for each segment and assigned points, with the highest crash rates receiving 5 points. An additional 5 points were given to the segment if there was a pedestrian or bicycle fatality or serious injury crash within the study period.

Table 12 – Roadway Characteristics and Crash Data Evaluation Score Summary

AADT per Lane Along the Roadway Segment	
Score Criteria	**Number of Points**
More than 9,000 vplpd	0
Less than 9,000 vplpd	5
K and A Crash Rate per MVMT	
Score Criteria	**Number of Points**
No crashes	0
Less than 20% of the Max	1
20 – 40%	2
40 – 60%	3
60 – 80%	4
80 – 100%	5
Pedestrian or Bicycle K or A Crash Along the Roadway	
Score Criteria	**Number of Points**
No	0
Yes	5
Maximum Score	15

6.2.1.5. Employment/Population/Public Facilities


Mira Loma Drive

To demonstrate the demand, desire, and/or need for complete streets in specific locations, employment and population density, low-income households as well as location of public facilities that are frequented by all modes of travel were included in the analysis. Six different components were included in this evaluation score for a maximum score of 40 points and are summarized in **Table 13**.

Employment information per parcel was obtained from the most recent quarterly update available at the time of the study from the Nevada Department of Employment, Training and Rehabilitation (DETR). The DETR employment data includes employment information for both public and private employers. Nevada DETR provides employment in tabular format with the business address and number of employees. Each address was geocoded as a point in GIS, and the points were associated within a ¼ mile of each roadway segment to obtain an employment density of each roadway segment. A maximum of 10 points were assigned for employment density.

Residents per square mile was calculated within a ¼ mile of each segment using population data provided by Washoe County. The population density was associated with the roadway segment. A maximum of 10 points were given to each segment based on population density.

Public facilities were also included in the evaluation. The number of social service facilities within ¼ mile of the roadway segment (senior facilities, medical facilities, and libraries) was analyzed and given 5 points if such a facility was within the buffer distance. The number of parks and schools within ¼ mile were also analyzed and 5 points were awarded for a school and a park in close proximity to the roadway segment. Finally, low-income data was provided by the RTC and low-income population within ¼ mile of the roadway segment was normalized and associated with each roadway segment. Up to 5 additional points were assigned to segments with the highest low-income population in close proximity.

Table 13 – Employment/Population/Public Facilities Evaluation Score Summary

Employment Density within ¼ Mile of Roadway Segment	
Score Criteria	**Number of Points**
10% of the Max	1
:	:
50%	5
:	:
100%	10
Population Density within ¼ Mile of Roadway Segment	
Score Criteria	**Number of Points**
10% of the Max	1
:	:
50%	5
:	:
100%	10
Number of Social Service Facilities within ¼ Mile of Roadway Segment	
Score Criteria	**Number of Points**
None	0
1 of More	5
Number of Parks within ¼ Mile of Roadway Segment	
Score Criteria	**Number of Points**
None	0
1 of More	5
Number of Schools within ¼ Mile of Roadway Segment	
Score Criteria	**Number of Points**
None	0
1 of More	5
Low-Income Population within ¼ Mile of Roadway Segment	
Score Criteria	**Number of Points**
10% of the Max	1
:	:
50%	5
:	:
100%	10
Maximum Score	40


Feb. 2016 Public Meeting

6.2.1.6. Public Comment

In order to include public comment into the technical evaluation, 5 points were awarded to each segment where public comment was received in the public meetings in Sparks and Reno. If a segment received a comment about pedestrian improvements, bicycle improvements, transit enhancements or multiple comments, each segment referenced received 5 points (or no points if the segment did not have public comment). **Figure 9** (see page 24) contains a summary of the comments received on specific roadway segments. Of the thousands of evaluated segments, 563 segments received the 5 bonus points in the evaluation score and thus resulted in a higher desire/need for complete streets improvements at that location. All of the public comments can be seen as attached in **Appendix A**.

6.2.2. Evaluation Score Results

After calculating the scores for bikeability, walkability, transit access, roadway characteristics, crash data, employment, population, public facilities and public input, the results of the analysis were graphically depicted on a map, as illustrated in **Figure 10**.

6.2.3. Preliminary Recommendations

The results of the evaluation score, four-lane roads with less than 18,000 vpd, and existing and planned locations with complete streets (see **Figure 11**) were reviewed and locations for consideration for complete streets projects were developed. The recommended locations were determined based on the results of the evaluation criteria, filling in gaps in the network, and identification of locations where lane reduction complete streets projects could be considered. The recommended locations were provided to the RTC, TAC, and public for review and comment. Comments received from the RTC and TAC are included in **Appendix E** and comments from the public are included in **Appendix B**.

6.2.4. Analysis of Recommendations

After the recommendations were reviewed by the RTC and the TAC, the locations of lane reduction complete streets were provided to the RTC to input into the Regional Travel Demand Model to determine potential future impacts to the street network as a result of the lane reductions. Based on the results of the model runs, each of the corridors recommended for possible lane reduction complete streets maintained acceptable LOS (LOS C or better) under existing traffic conditions as well as in forecast year 2035. Roadways surrounding those potential lane reduction corridors also maintained acceptable LOS. The final recommendations were not modified since acceptable LOS are expected to be maintained. Along corridors where lane reductions are recommended, existing access controls and future traffic volumes should be considered.

Figure 10 – Evaluation Score

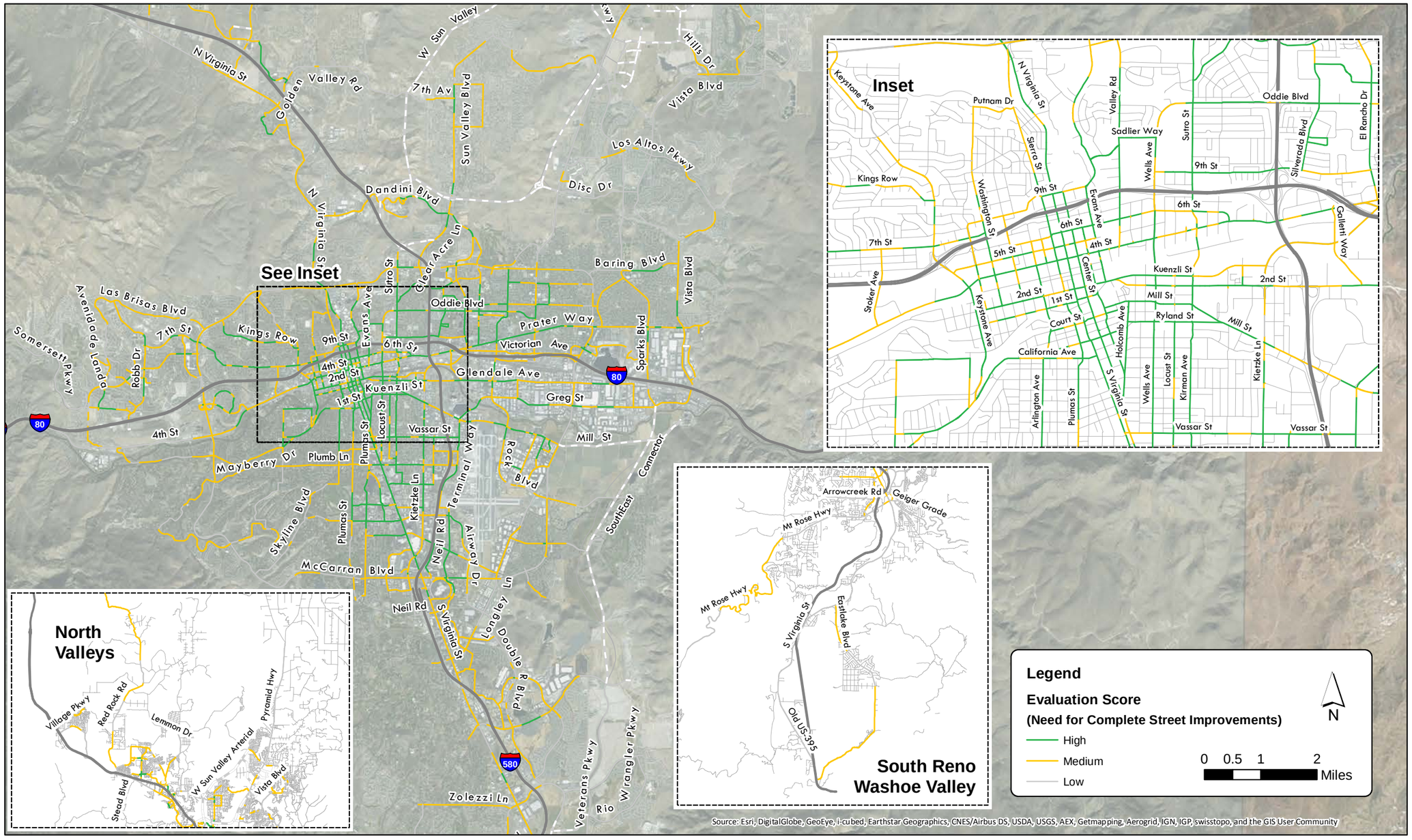
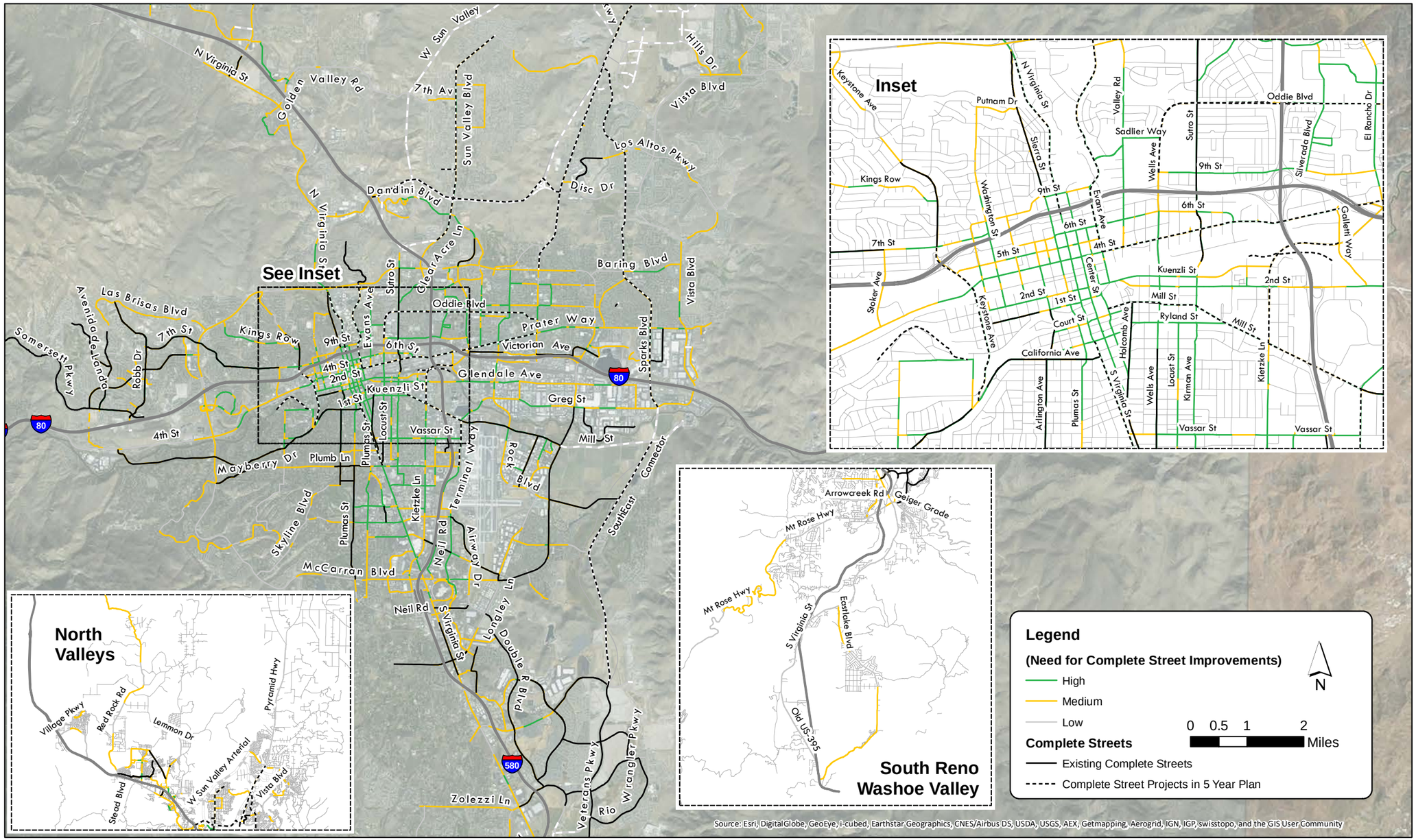


Figure 11 – Evaluation Score with Existing and Planned Complete Streets



7. RECOMMENDATIONS

The results of the evaluation score, four-lane roads with less than 18,000 vpd, and existing and planned locations with complete streets were reviewed and locations for consideration for complete streets projects were developed. The recommended locations were determined based on the results of the evaluation criteria, filling in gaps in the network, and identification of locations where lane reduction complete streets projects could be considered. The recommended locations were provided to the RTC, TAC, and public for review and comment. Comments received from the RTC and TAC are included in **Appendix E** and comments from the public are included in **Appendix B**. After the recommendations were reviewed by the RTC and the TAC, the locations of lane reduction complete streets were provided to the RTC to input into the Regional Travel Demand Model to determine potential future impacts to the street network as a result of the lane reductions. The final recommendations were not modified since acceptable LOS are expected to be maintained. Along corridors where lane reductions are recommended, existing access controls and future traffic volumes should be considered. **Figure 12** illustrates the recommended prioritized locations for complete streets considerations throughout Washoe County.

The recommendations identify priority locations where complete streets improvements should be considered. Complete streets are not one size fits all, rather they tend to be designed to the intent of the corridor and community they serve. Depending upon the context and need of users, the "complete" street could include sidewalks, safer pedestrian crossings, bike lanes, wide outside lanes, median islands, narrower travel lanes, special transit amenities, and more. The context of the street is typically realized through deliberate analysis of travel conditions, including all modes, as well as stakeholder outreach throughout the community.

"I'm excited to see that RTC is planning more and better interconnected complete streets. Please consider more separate, protected bike lanes."

Public Comment

The complete streets priority recommendations included in **Figure 12** warrant further consideration with respect to feasibility of construction and the context and need of the users. **Figure 13** shows a key map for the recommendations related to a brief description of existing conditions and high-level complete streets treatment concepts for each of the recommended locations following the map. For reference, **Table 14** summarizes the recommended roadways, project limits and proposed improvements.

It is recommended that the RTC conduct site specific corridor studies at the recommended locations to determine the appropriate complete streets treatments for each location. Complete street improvements are recommended to comply with the most current edition of the AASHTO Green Book, MUTCD, NACTO Urban Street Design Guide, and/or local guidelines.

A high-level review of the Sierra Street and Center Street corridors was completed to explore bicycle facility options within the existing right-of-way. This Technical Memorandum is included in **Appendix F** for reference. It is recommended that corridor analyses be performed for these roadways to determine actual feasibility of specific complete streets treatments in these locations.

As the RTC moves forward with implementation of the project recommendations, the following items should be considered when evaluating corridors for complete street improvements:

- Give full consideration to the accommodation of the transportation needs of all users, regardless of age or ability, including those traveling by private vehicle, mass transit, foot, and bicycle.

- Investigate multiple treatment options, including conversion of a travel lane to a bike lane, and/or a parallel roadway if right-of-way is constrained on the proposed roadway.
- Solutions should be developed to fit within the context(s) of the community and those solutions should be flexible so that the needs of the corridor can be met.

As new development and redevelopment occur, it is expected that adequate bicycle, pedestrian, and transit facilities be requested and provided through the local jurisdiction's development process. In areas experiencing significant growth with respect to demand, project prioritization may be modified or revisited to address the changes in the area. Lastly, the RTC is anticipated to partner with jurisdictions in increasing transportation modes along corridors.

Figure 12 – Locations for Consideration of Prioritized Complete Streets Projects

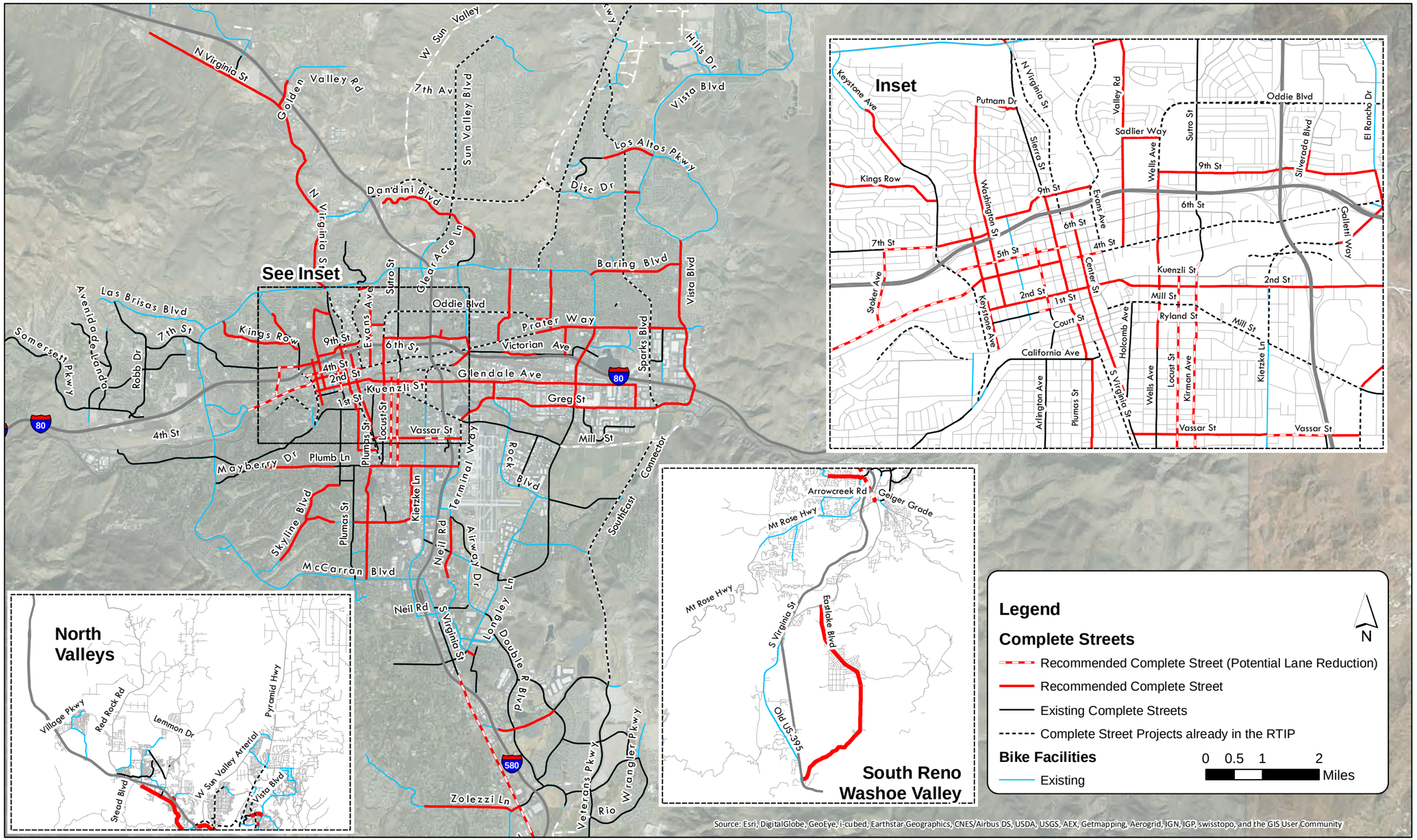


Figure 13 – Complete Streets Recommendation Key

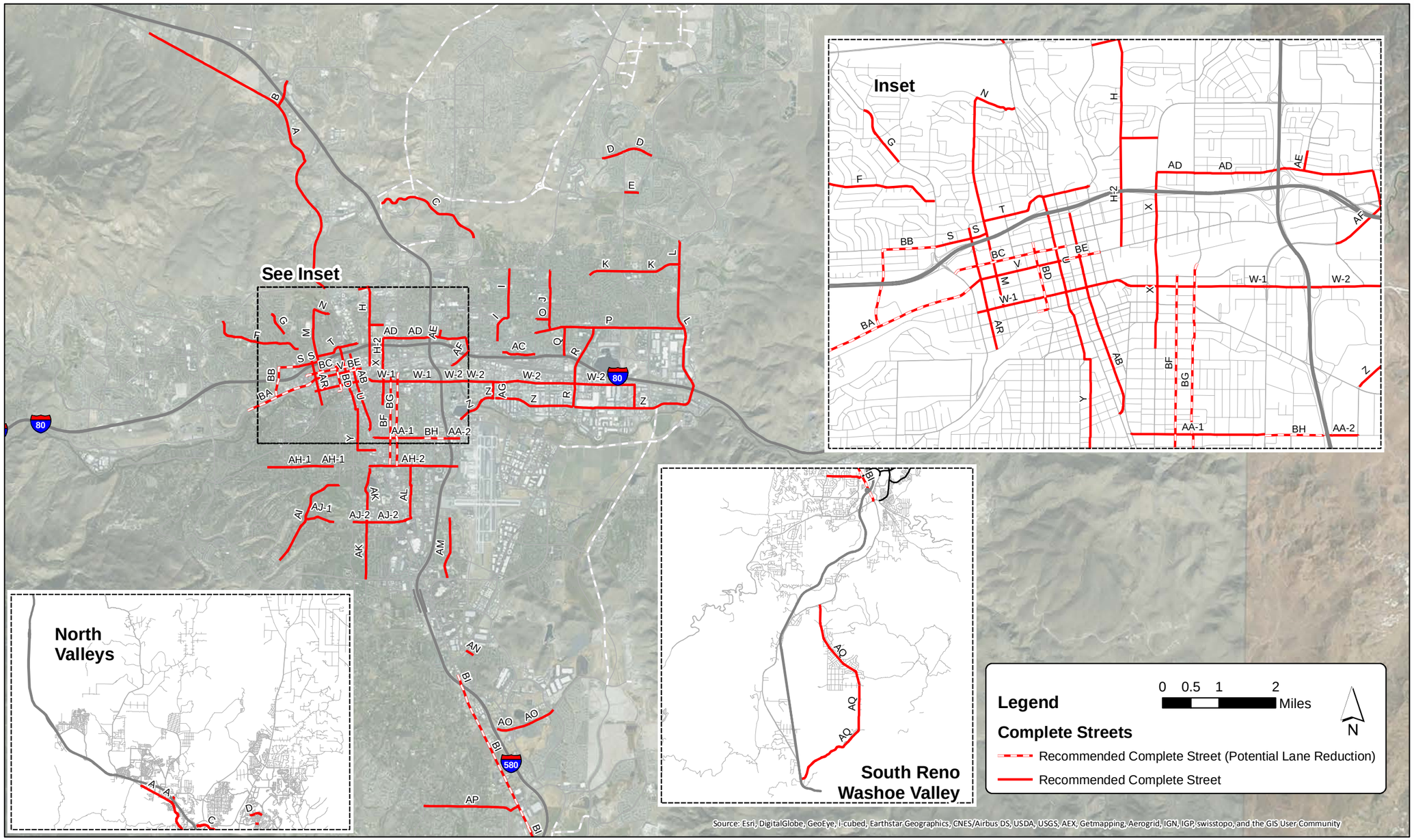


Table 14 – Complete Streets Recommendation Summary

ID	Road Name	From	To	Complete Street Considerations for Further Review and Study:
A	North Virginia Street	Stead Boulevard	McCarran Boulevard	Sidewalks and bike lanes. An off-street shared-use path may be considered
B	Golden Valley Road	N Virginia Street	North Hills Boulevard	Bike lanes
C	El Rancho Drive/Dandini Boulevard	Raggio Parkway	Sullivan Lane	Sidewalks
D	Los Altos Parkway	Ion Court/Ion Drive	Vista Boulevard	Bike lanes
E	Disc Drive	Sparks Boulevard	Vista Boulevard	Enhanced sidewalks and bike lanes
F	Kings Row	McCarran Boulevard	Keystone Avenue	Bike lanes
G	Keystone Avenue	Coleman Drive	Peavine Road	Sidewalks and bike lanes
H-1	Sadleir Way	Valley Road	Wells Avenue	Bike lanes
H-2	Valley Road	4th Street	Enterprise Road	Sidewalks and bike lanes
H-3	Enterprise Road	Evans Avenue	Valley Road	Enhanced sidewalk on north side of road
I	Rock Boulevard	Greg Street	Glendale Avenue	Sidewalks and bike lanes
J	4th Street (Sparks)	Prater Way	McCarran Boulevard	Bike lanes
K	Baring Boulevard	McCarran Boulevard	Vista Boulevard	Bike lanes
L	Vista Boulevard	Greg Street	S Los Altos Parkway	Sidewalks and bike lanes
M	Washington Street	Putnam Drive	W 2nd Street	Bike lanes
N	San Rafael Drive	Washington Street	N Sierra Street	Sidewalks and bike lanes
O	I Street	Pyramid Way	4th Street	Bike lanes
P	Prater Way	Pyramid Way	Vista Boulevard	Enhanced sidewalks and bike lanes
Q	Stanford Way	Victorian Avenue	Prater Way	Bike lanes
R	McCarran Boulevard	Greg Street	Prater Way	Sidewalks and bike lanes
S	7th Street (Reno)	Stoker Avenue	Washington Street	Bike lanes
T	9th Street/University Terrace (Reno)	Keystone Avenue	North Virginia Street	Sidewalks and bike lanes
U	Sierra Street	California Avenue	9th Street	Bike lanes
V	4th Street (Reno)	Keystone Avenue	Sierra Street	Enhanced sidewalks and bike lanes
W-1	W 2nd Street (Reno)	Keystone Avenue	Galletti Way	Enhanced sidewalks, landscaping, bike lanes
W-2	Glendale Avenue	Galletti Way	Meredith Way	Bike lanes
X	Wells Avenue	Moran Street	E 9th Street	Bike lanes and bike/pedestrian facilities over the Truckee River
Y	Forest Street	California Avenue	Mount Rose Street	Bike lanes
Z	Greg Street	Mill Street	Vista Boulevard	Sidewalks and bike lanes
AA	Vassar Street	Holcomb Avenue	Terminal Way	Bike lanes
AB	Center Street (Reno)	South Virginia Street	Maple Street/I-80 Onramp	Bike lanes
AC	Victorian Avenue	16th Street	Pyramid Way	Bike lanes
AD	9th Street/G Street	Wells Avenue	El Rancho Drive	Enhanced sidewalks and bike lanes
AE	Silverada Boulevard	E 9th Street	Hiko Avenue	Bike lanes
AF	Kietzke Lane	Galletti Way	Victorian Avenue	Sidewalks and bike lanes
AG	Rock Boulevard	Prater Way	McCarran Boulevard	Enhanced sidewalks and bike lanes
AH	Plumb Lane	Lakeside Drive	Terminal Way	Bike lanes
AI	Skyline Boulevard	Cashill Boulevard	Arlington Avenue	Bike lanes
AJ	Moana Lane	Plumas Street	Baker Lane	Sidewalks and bike lanes
AK	Lakeside Drive	McCarran Boulevard	Plumb Lane	Bike lanes
AL	Yori Avenue	Moana Lane	Plumb Lane	Sidewalks and bike lanes
AM	Neil Road	McCarran Boulevard	Moana Lane	Bike lanes
AN	Huffaker Lane	Bluestone Drive	Longley Lane	Bike lanes
AO	South Meadows Parkway	I-580 Northbound Ramps	Double Diamond Parkway	Bike lanes
AP	Zolezzi Lane	Villa Marbella Circle	Arlington Avenue	Sidewalks
AQ	Eastlake Boulevard	Old US 395	I-580 Interchange	Bike lanes or multiuse path
AR	Vine Street	Riverside Drive	University Terrace	Bike lanes
The following corridors are recommended for consideration for lane reduction complete streets based on existing and forecasted traffic volumes.				
BA	4th Street (Reno)	North Virginia Street	Evans Avenue	Enhanced sidewalks and bike lanes. Consider a lane reduction project.
BB	Stoker Avenue	W 4th Street	W 7th Street	Bike lanes. Consider a lane reduction project.
BC	5th Street (Reno)	Keystone Avenue	North Virginia Street	Bike lanes. Consider a lane reduction project.
BD	Arlington (Reno)	6th Street	1st Street	Bike lanes. Consider a lane reduction project.
BE	4th Street (Reno)	Summit Ridge Drive	Keystone Avenue	Enhanced sidewalks and bike lanes. Consider a lane reduction project.
BF	Locust Street	Plumb Lane	Kuenzli Street	Bike lanes. Consider a lane reduction project.
BG	Kirman Avenue	Plumb Lane	Kuenzli Street	Bike lanes. Consider a lane reduction project.
BH	Vassar Street	Holcomb Avenue	Terminal Way	Bike lanes. Consider a lane reduction project along section with 2 lanes in each direction.
BI	South Virginia Street	E Patriot Boulevard	SR 431/SR 341	Sidewalks and bike lanes. Consider a lane reduction project.

A - North Virginia Street



From: Stead Boulevard
To: McCarran Boulevard
General Conditions/Observations:

- Vehicle Travel Lanes – varies from 1 lane each direction to 2 lanes each direction with TWLTL
- Sidewalks – Intermittent along the corridor
- Bike Lanes – None
- Transit – Yes
- Land Use – Parks, Multi-Family Housing, Single-Family Housing
- Other – A portion of the corridor is rural.

Complete Street Considerations for Further Review and Study: Consider providing sidewalks throughout the corridor (or other pedestrian facility) and accommodation for bike lanes. An off-street shared-use path may be considered.

B – Golden Valley Road



From: N Virginia Street
To: North Hills Boulevard
General Conditions/Observations:

- Vehicle Travel Lanes – varied from 1 each direction to 2 each direction with TWLTL
- Sidewalks – Existing
- Bike Lanes – None
- Transit – Yes
- Land Use – Commercial Development
- Other – US 395 Interchange, Gas Stations, relatively rural area

Complete Street Considerations for Further Review and Study: Consider providing accommodation for bike lanes.

C - El Rancho Drive/Dandini Boulevard



From: Raggio Parkway
To: Sullivan Lane
General Conditions/Observations:

- Vehicle Travel Lanes – 1 each direction
- Sidewalks – None
- Bike Lanes – Existing
- Transit – Yes (post in dirt on side of road)
- Land Use – Single-Family Housing
- Other – The corridor is rural, and provides access to the Desert Research Institute.

Complete Street Considerations for Further Review and Study: Consider providing sidewalks.

D - Los Altos Parkway



From: Ion Court/Ion Drive
To: Vista Boulevard
General Conditions/Observations:

- Vehicle Travel Lanes – 1 or 2 each direction, some TWLTL
- Sidewalks – Existing
- Bike Lanes – None
- Transit – No
- Land Use – Single-Family Housing

Complete Street Considerations for Further Review and Study: Consider providing accommodation for bike lanes.

E - Disc Drive



From: Sparks Boulevard
To: Vista Boulevard
General Conditions/Observations:

- Vehicle Travel Lanes – 2 each direction
- Sidewalks – Existing
- Bike Lanes – None
- Transit – No
- Land Use – Single-Family Housing, Strip Mall
- Other – There is a raised median with landscaping along the corridor.

Complete Street Considerations for Further Review and Study: The corridor could benefit from enhanced sidewalks, as in some places the sidewalks are narrow and close to travel lanes with no relief. Consider providing accommodation for bike lanes.

F - Kings Row



From: McCarran Boulevard
To: Keystone Avenue
General Conditions/Observations:

- Vehicle Travel Lanes – 1 each direction with TWLTL
- Sidewalks – Existing
- Bike Lanes – None
- Transit – Yes
- Land Use – Single-Family Housing, schools, church, park
- Other – On-Street Parking

Complete Street Considerations for Further Review and Study: Consider providing accommodation for bike lanes.

G - Keystone Avenue



From: Coleman Drive
To: Peavine Road
General Conditions/Observations:

- Vehicle Travel Lanes – 1 each direction
- Sidewalks – Existing (one side of road)
- Bike Lanes – None
- Transit – No
- Land Use – Single-Family Housing
- Other – On-Street Parking

Complete Street Considerations for Further Review and Study: Consider providing sidewalks throughout the corridor and accommodation for bike lanes.

H-1 Sadleir Way



From: Valley Road
To: Wells Avenue
General Conditions/Observations:

- Vehicle Travel Lanes – 2
- Sidewalks – Existing
- Bike Lanes – None
- Transit – Yes
- Land Use – Single-Family Housing, Multi-Family Housing
- Other – University Property, On-Street Parking

Complete Street Considerations for Further Review and Study: Consider providing accommodation for bike lanes.

H-2 - Valley Road



From: 4th Street
To: Enterprise Road
General Conditions/Observations:

- Vehicle Travel Lanes – 1 each direction, some TWLTL
- Sidewalks – Intermittent along the corridor
- Bike Lanes – None
- Transit – Yes
- Land Use – Parks, Community Center, Multi-Family Housing, Single-Family Housing, Industrial, Commercial
- On-Street Parking

Complete Street Considerations for Further Review and Study: Consider providing sidewalks throughout the corridor and accommodation for bike lanes.

H-3 - Enterprise Road



From: Evans Avenue
To: Valley Road
General Conditions/Observations:

- Vehicle Travel Lanes – 1 each direction
- Sidewalks – Existing (one side of road)
- Bike Lanes – Existing
- Transit – Yes
- Land Use – Multi-Family Housing, Industrial

Complete Street Considerations for Further Review and Study: Consider enhancing sidewalk on north side of road as south side appears less feasible.

I - Rock Boulevard



From: Greg Street
To: Glendale Avenue
General Conditions/Observations:

- Vehicle Travel Lanes – 2 each direction with TWLTL
- Sidewalks – Existing (one side of road)
- Bike Lanes – None
- Transit – Yes
- Land Use – Industrial, Casino

Complete Street Considerations for Further Review and Study: Consider bike lanes on both side of the road along with accommodation for bike lanes.

J - 4th Street (Sparks)



From: Prater Way
To: McCarran Boulevard
General Conditions/Observations:

- Vehicle Travel Lanes – 1 each direction
- Sidewalks – Existing
- Bike Lanes – None
- Transit – Yes
- Land Use – Schools, Multi-Family Housing, Single-Family Housing
- Other – On-Street Parking

Complete Street Considerations for Further Review and Study: Consider providing accommodation for bike lanes.

K - Baring Boulevard



From: McCarran Boulevard
To: Vista Boulevard
General Conditions/Observations:

- Vehicle Travel Lanes – 2 each direction with raised medians with landscaping
- Sidewalks – Existing
- Bike Lanes – None
- Transit – Yes
- Land Use – Schools, Medial Facilities, Multi-Family Housing, Single-Family Housing

Complete Street Considerations for Further Review and Study: Consider providing accommodation for bike lanes.

L - Vista Boulevard



From: Greg Street
To: S Los Altos Parkway
General Conditions/Observations:

- Vehicle Travel Lanes – Varies, 2 or 3 each direction with TWLTL or raised median with landscaping
- Sidewalks – Intermittent along the corridor
- Bike Lanes – None
- Transit – No
- Land Use – Parks, Schools, Medial Facilities, Single-Family Housing, Industrial
- Other – There is a raised median with landscaping along most of the corridor.

Complete Street Considerations for Further Review and Study: Consider providing sidewalks throughout the corridor and accommodation for bike lanes.

M - Washington Street



From: Putnam Drive
To: W 2nd Street
General Conditions/Observations:

- Vehicle Travel Lanes – 1 each direction
- Sidewalks – Existing
- Bike Lanes – None
- Transit – Yes
- Land Use – Single-Family Housing
- Other – On-Street Parking

Complete Street Considerations for Further Review and Study: Consider providing accommodation for bike lanes.

N - San Rafael Drive



From: Washington Street
To: N Sierra Street
General Conditions/Observations:

- Vehicle Travel Lanes – 1 each direction
- Sidewalks – None
- Bike Lanes – None
- Transit – No
- Land Use – Regional Park

Complete Street Considerations for Further Review and Study: This road does not have bike lanes or sidewalks, however the road goes through Rancho San Rafael Regional Park.

O - I Street



From: Pyramid Way
To: 4th Street
General Conditions/Observations:

- Vehicle Travel Lanes – 1 each direction
- Sidewalks – Existing
- Bike Lanes – None
- Transit – Yes
- Land Use – Parks, Single-Family Housing

Complete Street Considerations for Further Review and Study: Consider providing accommodation for bike lanes.

P - Prater Way



From: Pyramid Way
To: Vista Boulevard
General Conditions/Observations:

- Vehicle Travel Lanes – 2 each direction with TWLTL or raised median
- Sidewalks – Existing
- Bike Lanes – Intermittent along the corridor
- Transit – Yes
- Land Use – Multi-Family Housing, Single-Family Housing, Parks

Complete Street Considerations for Further Review and Study: In some areas the sidewalks are narrow, and the corridor could benefit from enhanced sidewalks. Consider accommodation for bike lanes throughout the corridor.

Q – Stanford Way



From: Victorian Avenue
To: Prater Way
General Conditions/Observations:

- Vehicle Travel Lanes – 1 each direction
- Sidewalks – Existing
- Bike Lanes – None
- Transit – No
- Land Use – Single-Family Housing, Multi-Family Housing

Complete Street Considerations for Further Review and Study: Consider accommodation for bike lanes.

R - McCarran Boulevard



From: Greg Street
To: Prater Way
General Conditions/Observations:

- Vehicle Travel Lanes – 3 each direction
- Sidewalks – Intermittent along the corridor
- Bike Lanes – Intermittent along the corridor
- Transit – No
- Land Use – Multi-Family Housing, Gas Stations, Interstate Interchange
- Other – Conditions and surrounding land use vary widely along the corridor

Complete Street Considerations for Further Review and Study: Consider providing sidewalks and accommodation for bike lanes along the entire corridor.

S - 7th Street (Reno)



From: Stoker Avenue
To: Washington Street
General Conditions/Observations:

- Vehicle Travel Lanes – Varies, 1 or 2 each direction with some TWLTL
- Sidewalks – Existing
- Bike Lanes – None
- Transit – Yes
- Land Use – Single-Family Housing, Commercial
- Other – Adjacent to Interstate, On-Street Parking (one side of road)

Complete Street Considerations for Further Review and Study: Consider providing accommodation for bike lanes.

T - 9th Street/University Terrace (Reno)



From: Keystone Avenue
To: North Virginia Street
General Conditions/Observations:

- Vehicle Travel Lanes – 1 each direction
- Sidewalks – Intermittent along the corridor
- Bike Lanes – None
- Transit – Yes
- Land Use – Schools, Multi-Family Housing
- Other – University Campus, Fraternity Housing, Sorority Housing

Complete Street Considerations for Further Review and Study: Consider providing sidewalks throughout the corridor and accommodation for bike lanes.

U - Sierra Street

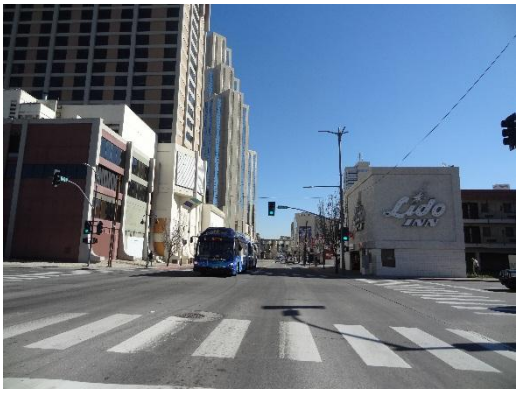


From: California Avenue
To: 9th Street
General Conditions/Observations:

- Vehicle Travel Lanes – 3 One-way north of Liberty Street, 2 each direction south of Liberty Street with TWLTL
- Sidewalks – Existing
- Bike Lanes – None
- Transit – Yes
- Land Use – Multi-Family Housing
- Other – High Rise Apartments, Courthouse, Casinos, on-street parking

Complete Street Considerations for Further Review and Study: Consider providing accommodation for bike lanes.

V - 4th Street (Reno)



From: Keystone Avenue
To: Sierra Street
General Conditions/Observations:

- Vehicle Travel Lanes – 2 each direction with raised median or TWLTL
- Sidewalks – Existing
- Bike Lanes – None
- Transit – Yes
- Land Use – Inns, Motels, Casinos
- Other – A median with landscaping exists for a portion of the corridor.

Complete Street Considerations for Further Review and Study: In some areas utility poles block sidewalk areas, particularly west of West Street. Consider providing enhanced sidewalks throughout the corridor and accommodation for bike lanes.

W-1 W 2nd Street (Reno)



From: Keystone Avenue
To: Galletti Way
General Conditions/Observations:

- Vehicle Travel Lanes – Varies, 2 each direction with TWLTL, 3 lanes one-way, 2 one direction, 1 other direction with TWLTL
- Sidewalks – Existing
- Bike Lanes – None
- Transit – Yes
- Land Use – High Rise Apartments, Casinos, Single-Family Housing
- Other – This corridor runs through downtown and has varied surrounding land uses. There are poor pavement conditions on the eastern end of the corridor by Galletti Way.

Complete Street Considerations for Further Review and Study: When the corridor is resurfaced, in the near term, consider restriping with narrower lanes to provide accommodation for bicycle lanes. In the long term, consider improving pedestrian facilities and adding street trees, as well, consistent with the NDOT Safety Management Plan.

W-2 - Glendale Avenue



From: Galletti Way
To: Meredith Way
General Conditions/Observations:

- Vehicle Travel Lanes – 2 each direction with TWLTL
- Sidewalks – Existing (one side of road)
- Bike Lanes – None
- Transit – Yes
- Land Use – Industrial
- Other – Poor pavement condition

Complete Street Considerations for Further Review and Study: When the corridor is resurfaced, consider restriping with narrower lanes to provide accommodation for bicycle lanes. NDOT is currently planning sidewalk/ADA improvements throughout the corridor.

X - Wells Avenue



From: Moran Street
To: E 9th Street
General Conditions/Observations:

- Vehicle Travel Lanes – Varies, 2 or 3 each direction, some TWLTL
- Sidewalks – Existing
- Bike Lanes – None
- Transit – Yes
- Land Use – Medical Facilities, Industrial

Complete Street Considerations for Further Review and Study: Consider providing accommodation for bike lanes and bike/pedestrian facilities over the Truckee River.

Y – Forest Street



From: California Avenue
To: Mount Rose Street
General Conditions/Observations:

- Vehicle Travel Lanes – 2 (One-way)
- Sidewalks – Existing
- Bike Lanes – None
- Transit – No
- Land Use – Single-Family Housing

Complete Street Considerations for Further Review and Study: Consider providing accommodation for buffered bike lanes or a cycle track.

Z - Greg Street



From: Mill Street
To: Vista Boulevard
General Conditions/Observations:

- Vehicle Travel Lanes – 2 each direction with TWLTL
- Sidewalks – None
- Bike Lanes – None
- Transit – Yes
- Land Use – Industrial

Complete Street Considerations for Further Review and Study: Consider providing sidewalks and accommodation for bike lanes.

AA - Vassar Street

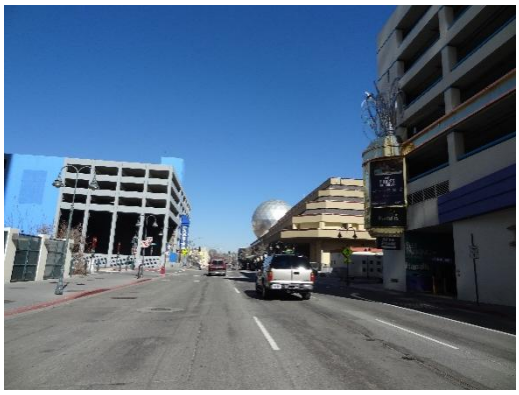


From: Holcomb Avenue
To: Terminal Way
General Conditions/Observations:

- Vehicle Travel Lanes –1 each direction
- Sidewalks – Existing
- Bike Lanes – None
- Transit – Yes
- Land Use – Parks, Single-Family Housing
- Other – On-Street Parking (intersection bulb-outs), Retail Stores

Complete Street Considerations for Further Review and Study: Consider providing accommodation for bike lanes.

AB - Center Street (Reno)



From: South Virginia Street
To: Maple Street/I-80 Onramp
General Conditions/Observations:

- Vehicle Travel Lanes – Varies 1 to 3 One-way
- Sidewalks – Existing
- Bike Lanes – Intermittent along the corridor one
- Transit – Yes
- Land Use – Amtrak Station, National Bowling Stadium, Casinos, University of Nevada – Reno access
- Other – On street parking

Complete Street Considerations for Further Review and Study: Consider providing accommodation for bike lanes throughout the corridor.

AC - Victorian Avenue



From: 16th Street
To: Pyramid Way
General Conditions/Observations:

- Vehicle Travel Lanes – 1 each direction
- Sidewalks – Existing
- Bike Lanes – None
- Transit – Yes
- Land Use – Parks, Transit Station, Motels
- Other – Nearby Parking, Casinos, Retail Stores, Restaurants, landscaped raised medians

Complete Street Considerations for Further Review and Study: Consider providing accommodation for bike lanes.

AD - 9th Street/G Street



From: Wells Avenue
To: El Rancho Drive
General Conditions/Observations:

- Vehicle Travel Lanes – 1 each direction
- Sidewalks – Existing
- Bike Lanes – None
- Transit – Yes
- Land Use – Parks, Schools, Medical Facilities, Single-Family Housing
- Other – On-Street Parking, Senior Services

Complete Street Considerations for Further Review and Study: This corridor could benefit from enhanced sidewalks. Consider providing accommodation for bike lanes.

AE – Silverada Boulevard



From: E 9th Street
To: Hiko Avenue
General Conditions/Observations:

- Vehicle Travel Lanes – 1 each direction
- Sidewalks – Existing
- Bike Lanes – None
- Transit – Yes
- Land Use – Single-Family Housing

Complete Street Considerations for Further Review and Study: Consider providing accommodation for bike lanes.

AF - Kietzke Lane



From: Galletti Way
To: Victorian Avenue
General Conditions/Observations:

- Vehicle Travel Lanes – 2 each direction
- Sidewalks – Intermittent along the corridor
- Bike Lanes – None
- Transit – No
- Land Use – Single-Family Housing
- Other – Raised Median, Mobile Homes, ROW constraints at interstate underpass

Complete Street Considerations for Further Review and Study: Consider providing sidewalks throughout corridor and accommodation for bike lanes in accordance with NDOT plans.

AG - Rock Boulevard



From: Prater Way
To: McCarran Boulevard
General Conditions/Observations:

- Vehicle Travel Lanes – 2 each direction, some TWLTL, some raised/landscaped medians
- Sidewalks – Existing
- Bike Lanes – None
- Transit – Yes
- Land Use – Schools, Church, Single-Family Housing

Complete Street Considerations for Further Review and Study: Consider providing enhanced sidewalks and accommodation for bike lanes.

AH - Plumb Lane



From: Lakeside Drive
To: Terminal Way
General Conditions/Observations:

- Vehicle Travel Lanes – 2 each direction
- Sidewalks – Existing
- Bike Lanes – Intermittent along the corridor
- Transit – Yes
- Land Use – Schools, Major Retail
- Other – Nearby Casinos, Hotel, Raised Median with Landscaping is intermittent along the corridor, some on-street parking

Complete Street Considerations for Further Review and Study: Consider providing accommodation for bike lanes throughout the corridor.

AI - Skyline Boulevard



From: Cashill Boulevard
To: Arlington Avenue
General Conditions/Observations:

- Vehicle Travel Lanes – 1 each direction
- Sidewalks – Existing
- Bike Lanes – None
- Transit – No
- Land Use – Single-Family Housing
- Other – On-Street Parking

Complete Street Considerations for Further Review and Study: Consider providing accommodation for bike lanes.

AJ - Moana Lane



From: Plumas Street
To: Baker Lane
General Conditions/Observations:

- Vehicle Travel Lanes – 2 each direction with TWLTL
- Sidewalks – Intermittent along the corridor
- Bike Lanes – Intermittent along the corridor
- Transit – Yes
- Land Use – Parks, Medical Facilities, Major Retail
- Other – Restaurants, Banks

Complete Street Considerations for Further Review and Study: Consider providing sidewalks and accommodation for bike lanes throughout the corridor.

AK - Lakeside Drive



From: McCarran Boulevard
To: Plumb Lane
General Conditions/Observations:

- Vehicle Travel Lanes – Varies, 1 or 2 each direction
- Sidewalks – Existing
- Bike Lanes – None
- Transit – Yes
- Land Use – Parks, Multi-Family Housing, Single-Family Housing, On-street parking
- Other – Virginia Lake

Complete Street Considerations for Further Review and Study: Consider providing accommodation for bike lanes.

AL - Yori Avenue



From: Moana Lane
To: Plumb Lane
General Conditions/Observations:

- Vehicle Travel Lanes – 1 each direction
- Sidewalks – Intermittent along the corridor
- Bike Lanes – None
- Transit – No
- Land Use – Multi-Family Housing, Single-Family Housing, On-street parking

Complete Street Considerations for Further Review and Study: Consider providing sidewalks throughout the corridor and accommodation for bike lanes.

AM - Neil Road



From: McCarran Boulevard
To: Moana Lane
General Conditions/Observations:

- Vehicle Travel Lanes – 1 each direction with TWLTL
- Sidewalks – Existing
- Bike Lanes – Intermittent along the corridor
- Transit – Yes
- Land Use – Parks, Schools, Multi-Family Housing, Single-Family Housing, Church
- Other – On-Street Parking, Strip Mall

Complete Street Considerations for Further Review and Study: Consider providing accommodation for bike lanes throughout the corridor.

AN - Huffaker Lane



From: Bluestone Drive
To: Longley Lane
General Conditions/Observations:

- Vehicle Travel Lanes – 1 lane each direction
- Sidewalks – Existing
- Bike Lanes – No
- Transit – No
- Land Use – Single-Family Housing

Complete Street Considerations for Further Review and Study: Consider providing accommodation for bike lanes.

AO - South Meadows Parkway



From: I-580 Northbound Ramps
To: Double Diamond Parkway
General Conditions/Observations:

- Vehicle Travel Lanes – Varies, 2 or 3 each direction
- Sidewalks – Existing
- Bike Lanes – None
- Transit – Yes
- Land Use – Single-Family Housing
- Other – Minor Retail, Raised Median

Complete Street Considerations for Further Review and Study: Consider providing accommodation for bike lanes.

AP - Zolezzi Lane



From: Villa Marbella Circle
To: Arlington Avenue
General Conditions/Observations:

- Vehicle Travel Lanes – 1 each direction
- Sidewalks – None
- Bike Lanes – Existing
- Transit – No
- Land Use – Single-Family Housing

Complete Street Considerations for Further Review and Study: Consider providing sidewalks throughout the corridor.

AQ - Eastlake Boulevard



From: Old US 395
To: I-580 Interchange
General Conditions/Observations:

- Vehicle Travel Lanes – 1 lane each direction
- Sidewalks – None
- Bike Lanes – None
- Transit – No
- Land Use – Single-Family Housing
- Other – Washoe Lake State Park, Rural Area

Complete Street Considerations for Further Review and Study: Consider providing accommodation for bike lanes in coordination with residents of New Washoe City as they may desire to maintain the rural nature of this facility. Sidewalks are not recommended. Could consider a multi-use path, including an equestrian element. This roadway provides access to Washoe Lake State Park.

AR – Vine Street



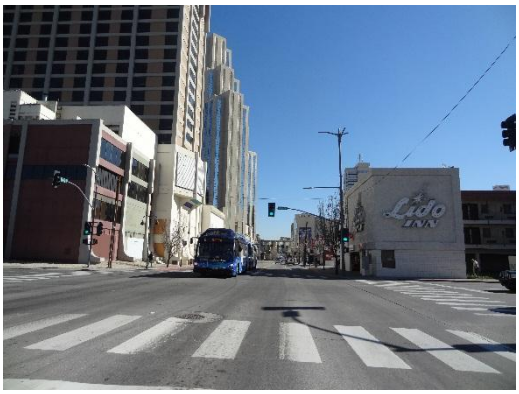
From: Riverside Drive
To: University Terrace
General Conditions/Observations:

- Vehicle Travel Lanes – Varies, 1 or 2 lanes each direction, some TWLTL
- Sidewalks – Existing
- Bike Lanes – None
- Transit – No
- Land Use – Single-Family Housing, Culture Center, Commercial, Industrial
- Other – On-Street Parking

Complete Street Considerations for Further Review and Study: In concurrence with the Keystone Avenue Corridor Study, consider providing accommodation for bike lanes as an alternative to bike lanes on Keystone Avenue where infeasible.

The following corridors are recommended for consideration for lane reduction complete streets based on existing and forecasted traffic volumes.

BA - 4th Street (Reno)



From: North Virginia Street
To: Evans Avenue
General Conditions/Observations:

- Vehicle Travel Lanes – 2 each direction with raised median or TWLTL
- Sidewalks – Existing
- Bike Lanes – None
- Transit – Yes
- Land Use – Inns, Motels, Casinos
- Other – A median with landscaping exists for a portion of the corridor.

Complete Street Considerations for Further Review and Study: Consider providing enhanced sidewalks throughout and accommodation for bike lanes. Consider a lane reduction project.

BB - Stoker Avenue



From: W 4th Street
To: W 7th Street
General Conditions/Observations:

- Vehicle Travel Lanes – Varies, 1 or 2 in each direction
- Sidewalks – Existing
- Bike Lanes – None
- Transit – No
- Land Use – Single-Family Housing
- Other – Cemetery, Interstate Underpass

Complete Street Considerations for Further Review and Study: Consider providing accommodation for bike lanes. Consider a lane reduction project.

BC - 5th Street (Reno)

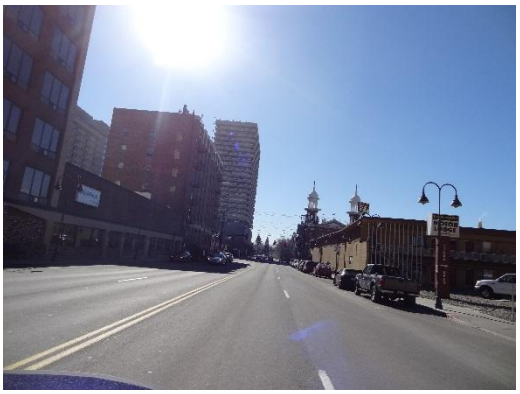


From: Keystone Avenue
To: North Virginia Street
General Conditions/Observations:

- Vehicle Travel Lanes – 2 each direction with TWLTL
- Sidewalks – Existing
- Bike Lanes – None
- Transit – Yes
- Land Use – Medical Facilities, Inns, Motels, Casinos

Complete Street Considerations for Further Review and Study: Consider providing accommodation for bike lanes. Consider a lane reduction project.

BD - Arlington (Reno)



From: 6th Street
To: 1st Street
General Conditions/Observations:

- Vehicle Travel Lanes – 2 each direction
- Sidewalks – Existing
- Bike Lanes – None
- Transit – Yes
- Land Use – Church, High Rise Apartments, Casinos, Hotels
- Other – On-Street Parking

Complete Street Considerations for Further Review and Study: Consider providing accommodation for bike lanes. Consider a lane reduction project.

BE - 4th Street (Reno)

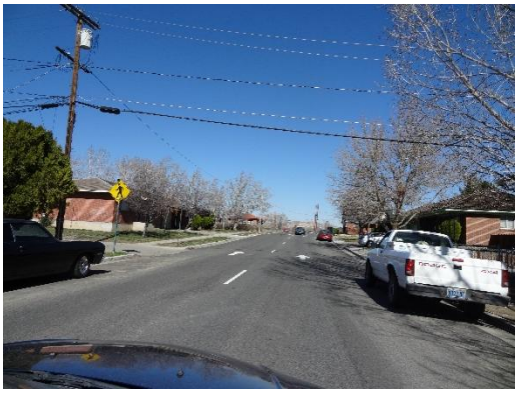


From: Summit Ridge Drive
To: Keystone Avenue
General Conditions/Observations:

- Vehicle Travel Lanes – 2 each direction with raised median or TWLTL
- Sidewalks – Existing
- Bike Lanes – None
- Transit – Yes
- Land Use – Inns, Motels, Casinos
- Other – A median with landscaping exists for a portion of the corridor.

Complete Street Considerations for Further Review and Study: In some areas utility poles block sidewalk areas. Consider providing enhanced sidewalks throughout the corridor and accommodation for bike lanes. Consider a lane reduction project.

BF - Locust Street



From: Plumb Lane
To: Kuenzli Street
General Conditions/Observations:

- Vehicle Travel Lanes – 2 One-way (1 each direction Two-way North of Mill Street)
- Sidewalks – Existing
- Bike Lanes – None
- Transit – Yes
- Land Use – Single-Family Housing
- Other – On-Street Parking

Complete Street Considerations for Further Review and Study: Consider providing accommodation for bike lanes. Consider a lane reduction project.

BG - Kirman Avenue



From: Plumb Lane
To: Kuenzli Street
General Conditions/Observations:

- Vehicle Travel Lanes – Varies, 2 each direction, 1 each direction, 2 One-way south of Ryland Street
- Sidewalks – Existing
- Bike Lanes – None
- Transit – Yes
- Land Use – Schools, Medical Facilities, Single-Family Housing
- Other – On-Street Parking

Complete Street Considerations for Further Review and Study: Consider providing accommodation for bike lanes. Consider a lane reduction project.

BH - Vassar Street



From: Holcomb Avenue
To: Terminal Way
General Conditions/Observations:

- Vehicle Travel Lanes – 2 each direction with TWLTL
- Sidewalks – Existing
- Bike Lanes – None
- Transit – Yes
- Land Use – Commercial, Industrial
- Other – On-Street Parking,

Complete Street Considerations for Further Review and Study: Consider providing accommodation for bike lanes. Consider a lane reduction project along section with 2 lanes in each direction.

BI - South Virginia Street



From: E Patriot Boulevard
To: SR 431/SR 341
General Conditions/Observations:

- Vehicle Travel Lanes – 2 or 3 each direction with TWLTL
- Sidewalks – Intermittent along the Corridor
- Bike Lanes – None
- Transit – Yes
- Land Use – Major Retail, Multi-Family Housing
- Other – Car Dealerships, Semi-Rural Area, Raised Median intermittent along the corridor

Complete Street Considerations for Further Review and Study: Consider providing sidewalks throughout the corridor and accommodation for bike lanes. Consider a lane reduction project.

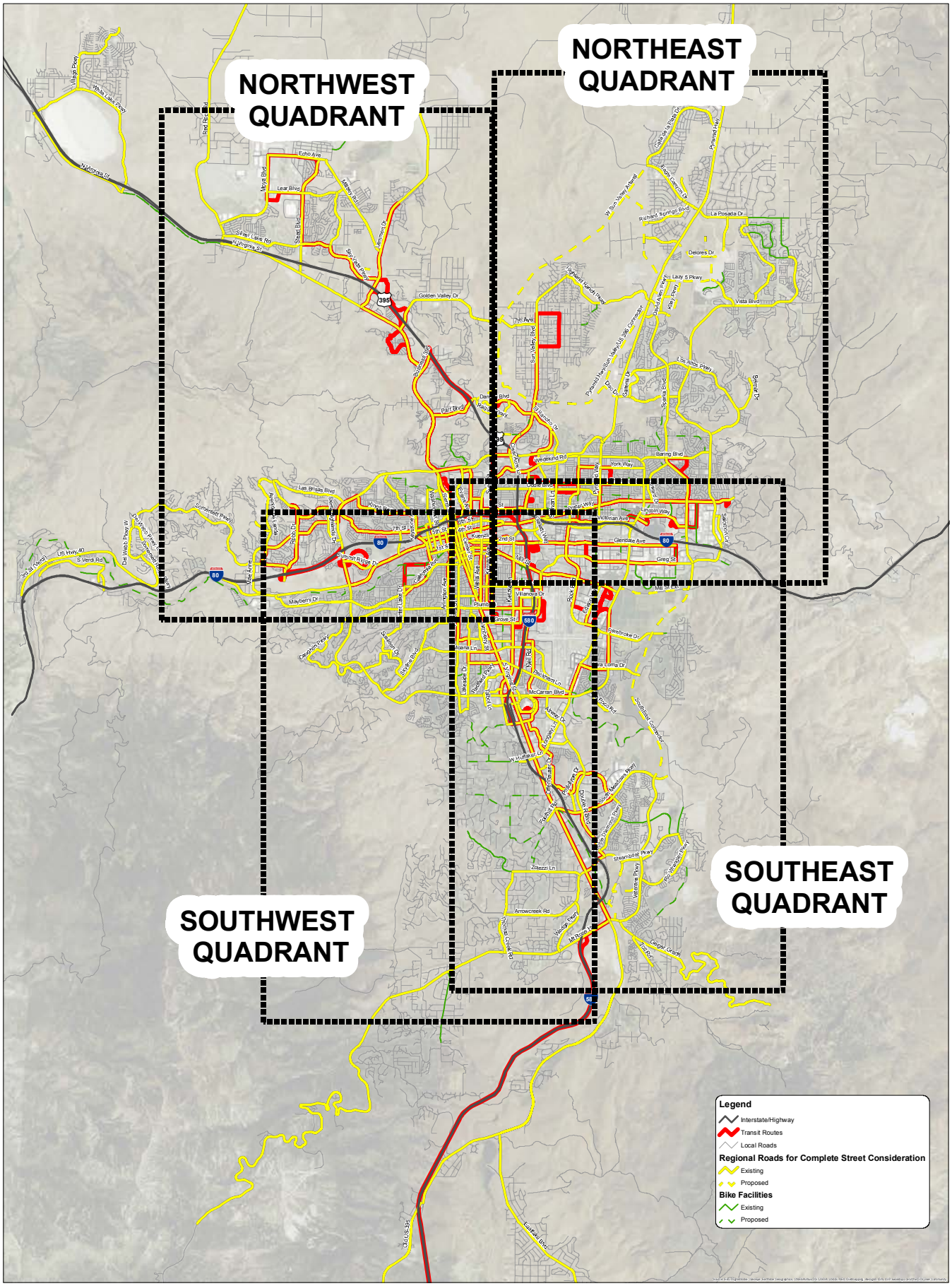
APPENDIX A

FALL 2015 PUBLIC MEETING MATERIALS AND PUBLIC COMMENTS

COMPLETE STREETS
MASTER PLAN

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Expect More. Experience Better.



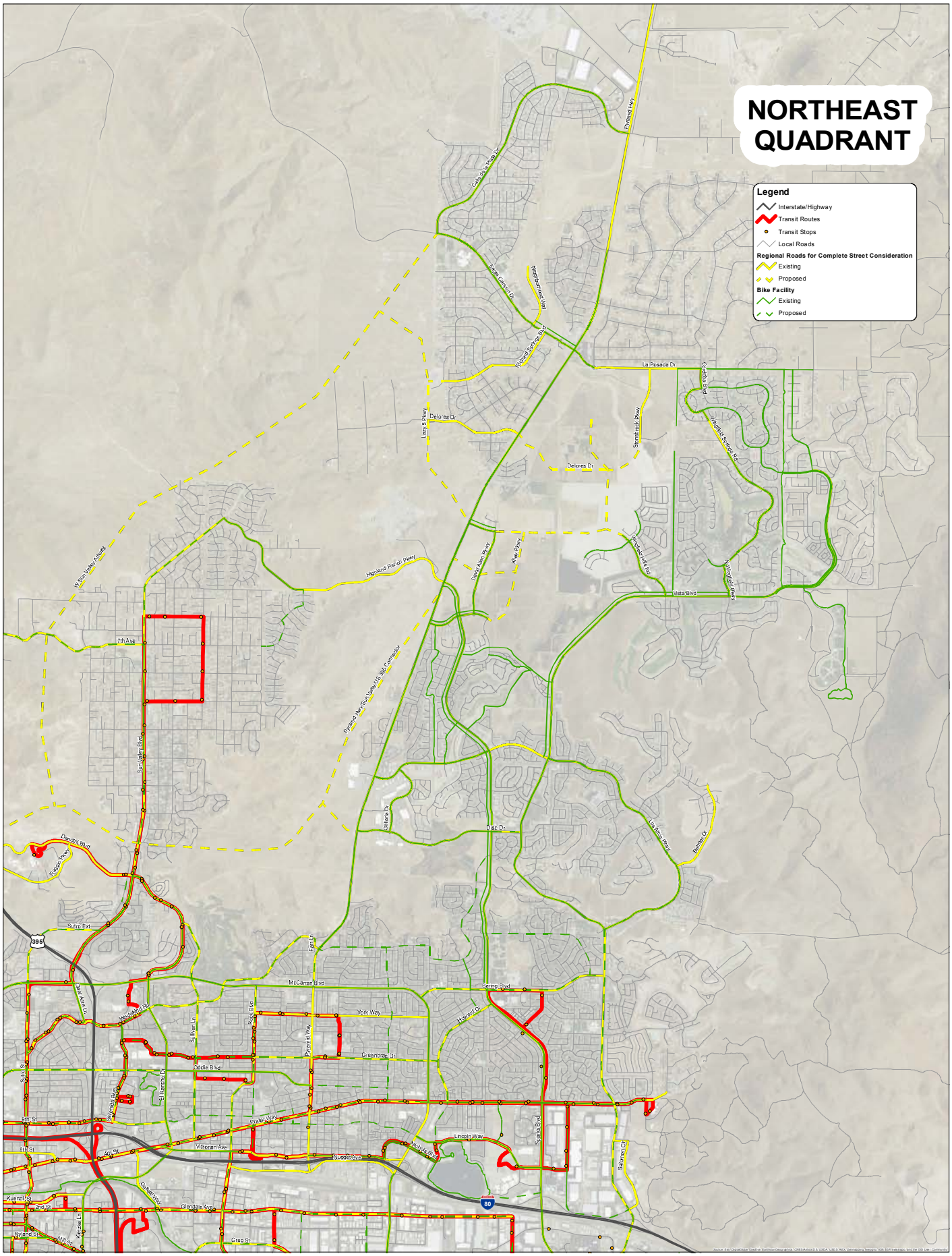
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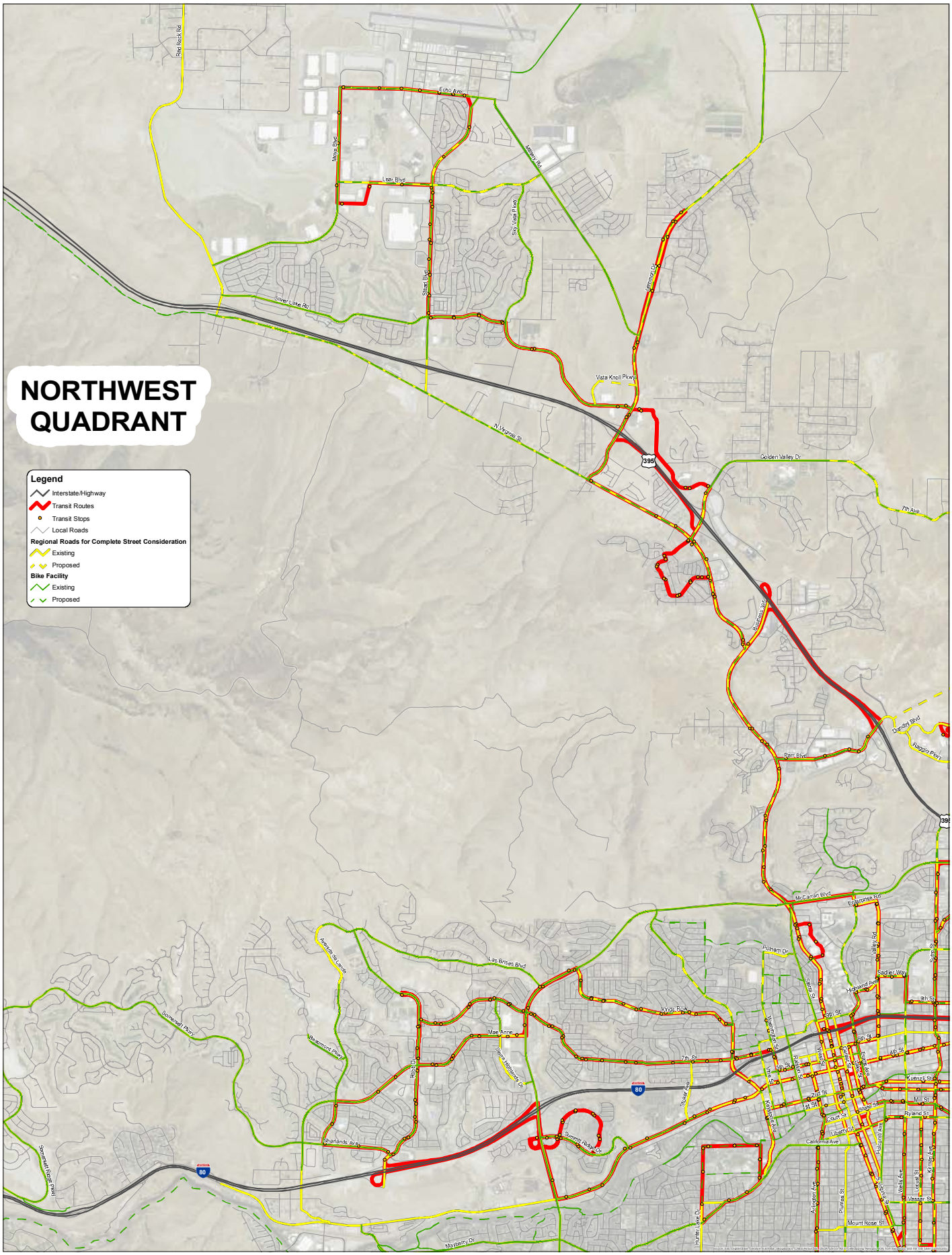
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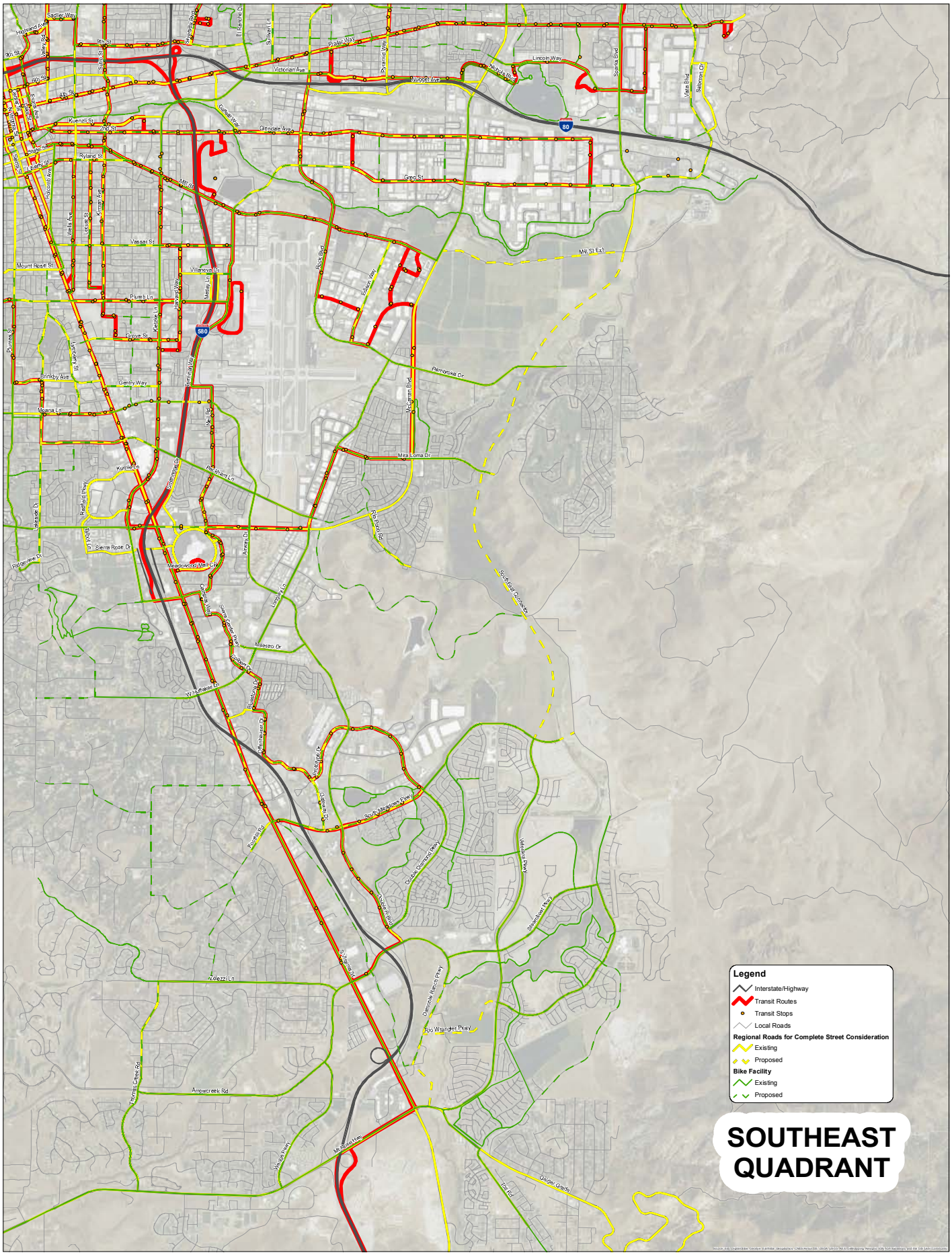
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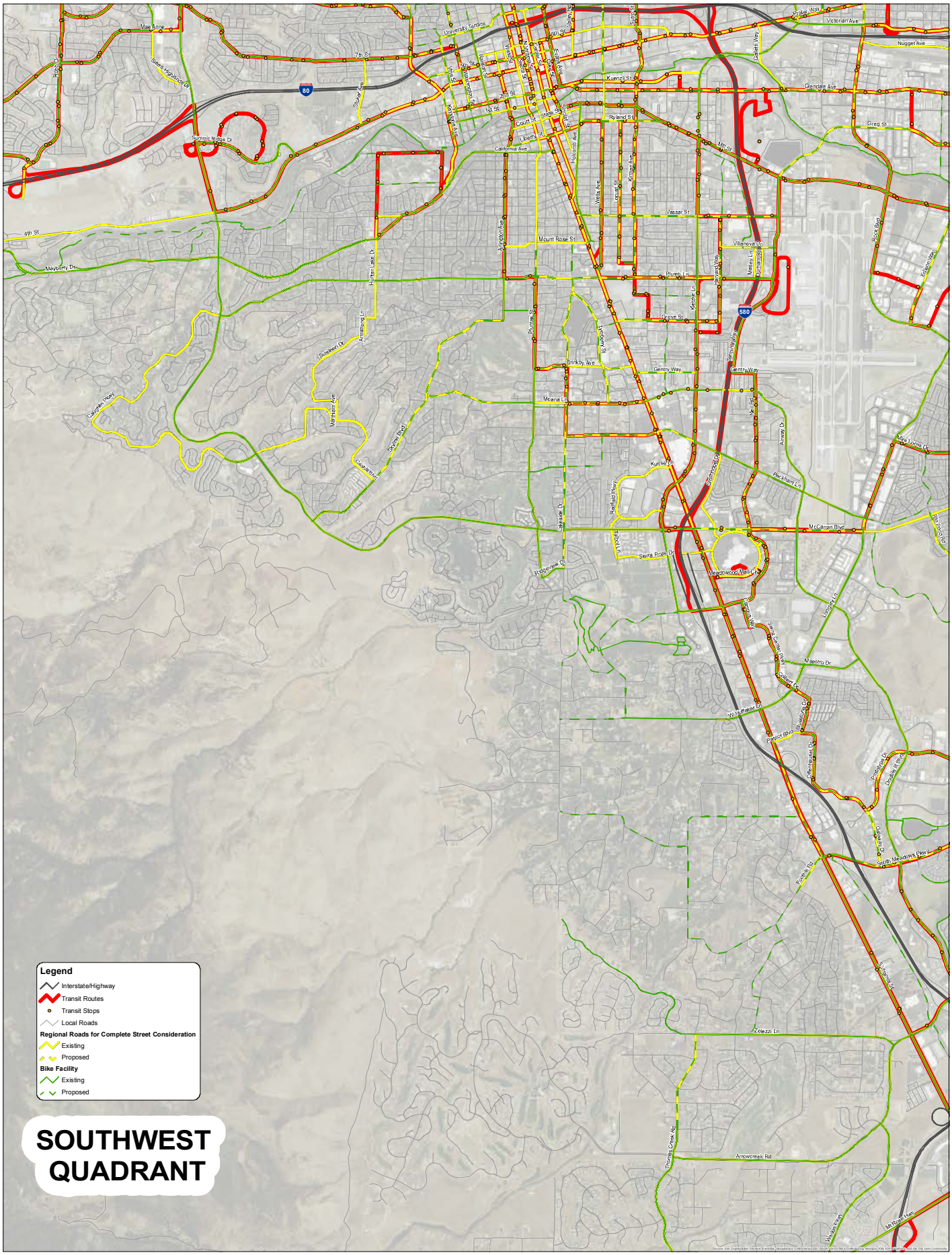
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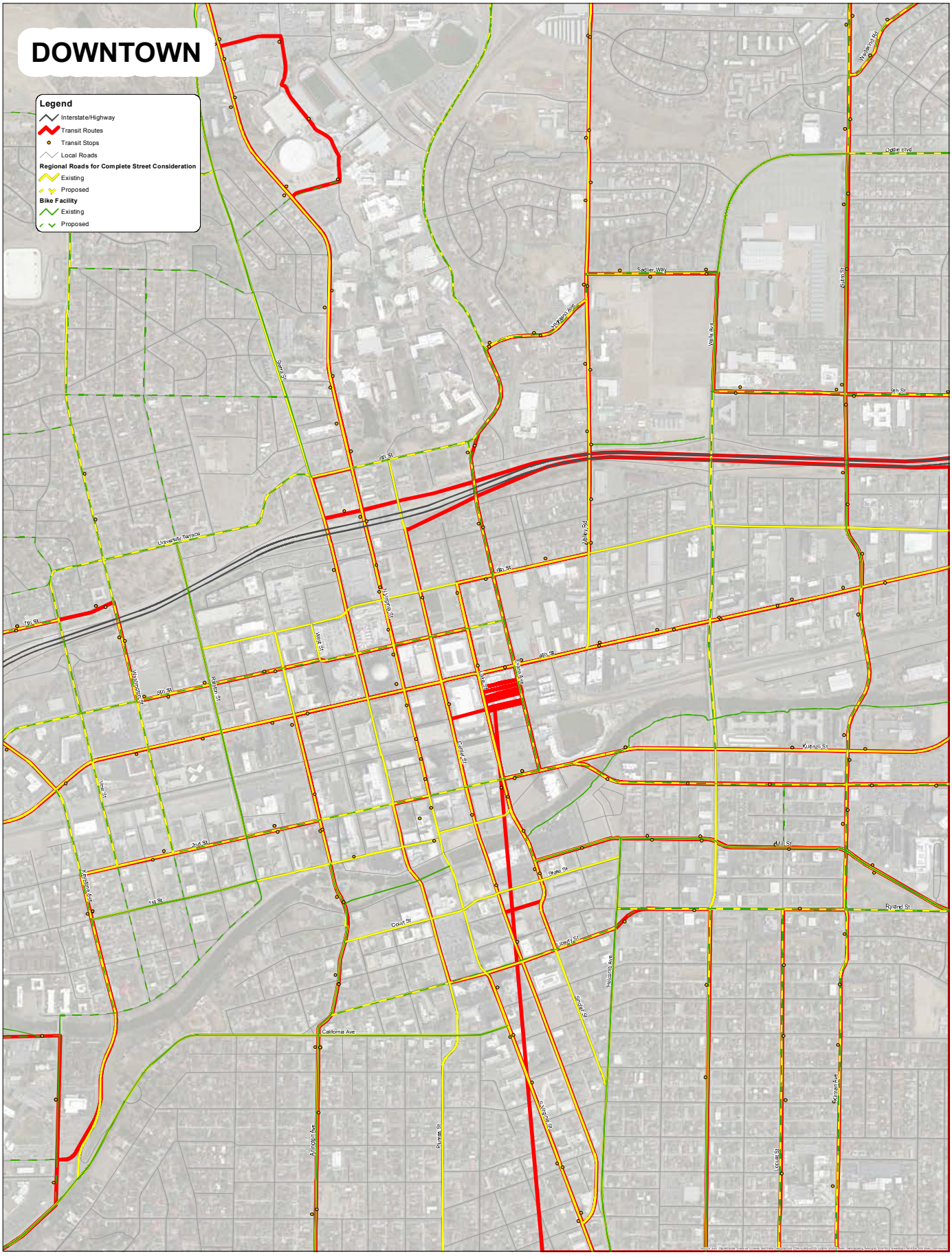
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DOWNTOWN



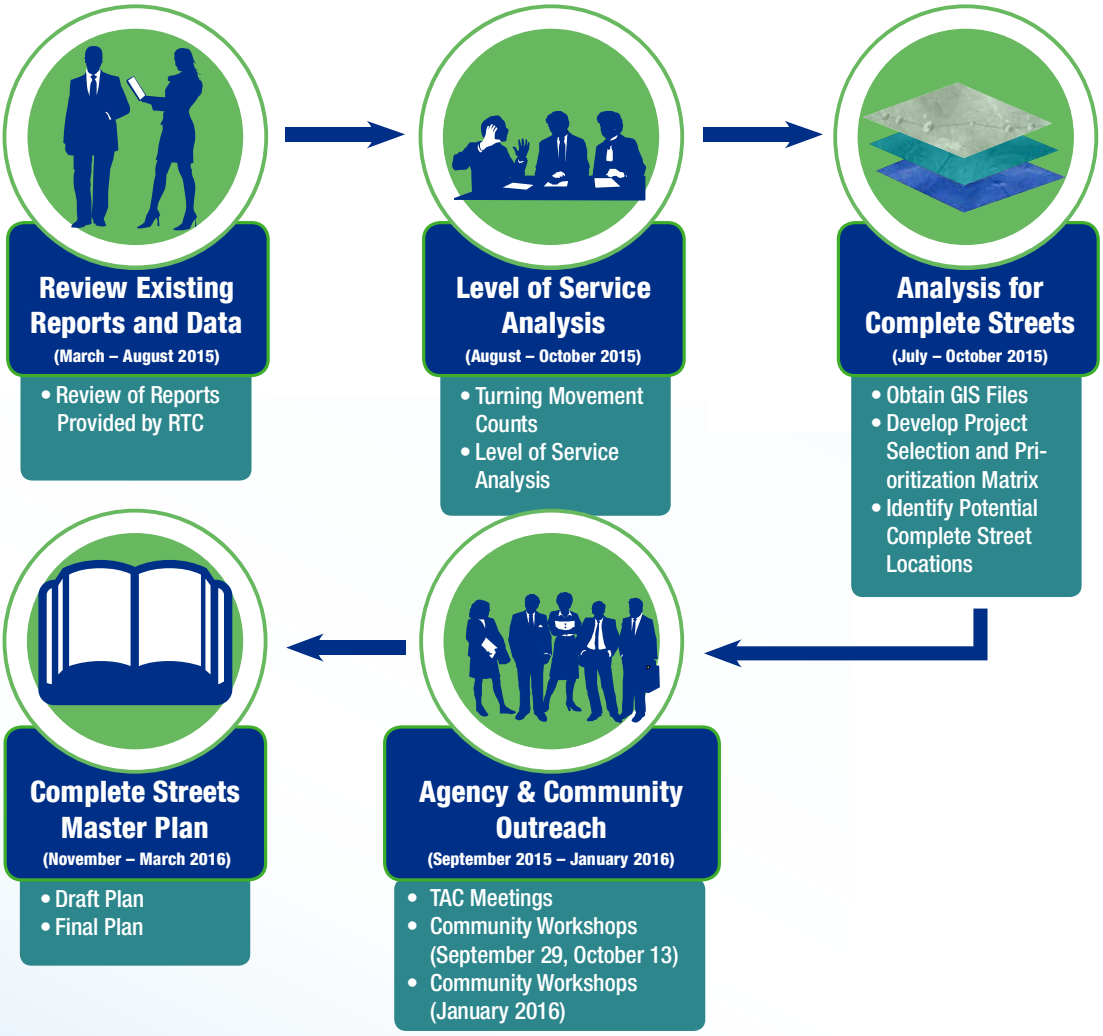
COMPLETE STREETS MASTER PLAN

PROJECT BACKGROUND AND PURPOSE

Purpose:

The purpose of the Complete Streets Master Plan is to identify the RTC's long range strategy for complete street treatments in the Reno-Sparks metropolitan area. This plan will address:

- ★ Safety
- ★ Traffic Flow
- ★ Connections for All Modes of Travel



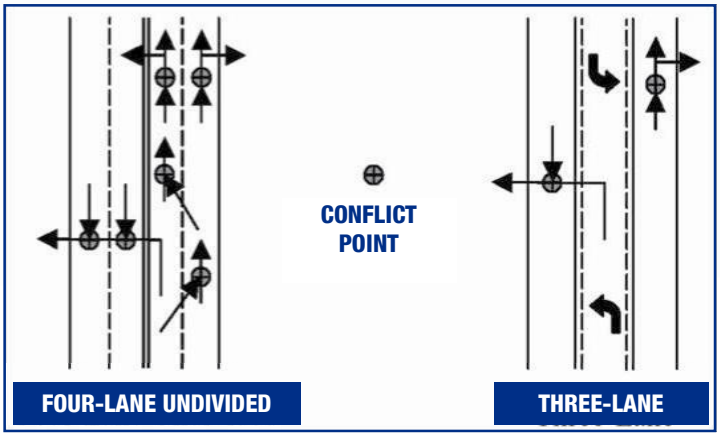


Benefits of COMPLETE STREETS

Safety Impacts:

In the Reno/Spark Area Complete Streets have reduced crash rates as follows:

LOCATION	% REDUCTION
Wells Ave.	-31%
California/Mayberry	-42%
Arlington	-46%
Mill Street	-43%



Benefits:

- ★ Lower speeds,
- ★ Reduced conflict points and crashes,
- ★ Reduced crash severity,
- ★ Better sight distance,
- ★ Refuge for pedestrians,
- ★ Space for bicycles (and others)
- ★ Wide sidewalks
- ★ On-street parking
- ★ Active transportation infrastructure and improve health
- ★ Supports livability and quality of life
- ★ Supports walking and biking for safe routes for schools

What is a Complete Street?

Complete Streets are streets for everyone. They are designed and operated to enable safe access for all users. Pedestrians, bicyclists, motorists and transit riders of all ages and abilities must be able to safely move along and across a complete street. Complete Streets make it easy to cross the street, walk to shops, and bicycle to work. They allow buses to run on time and make it safe for people to walk to and from transit stations.



How can a road with fewer lanes carry the same amount of traffic?

In a three-lane configuration there is always one lane for driving and one lane for turning. That helps make driving safer with fewer crashes and frustrations. With these improvements, a three-lane road can handle the same amount of traffic as a four-lane road.

How does a complete street make walking safer?

Pedestrians have to cross only three lanes of traffic, not four. There are fewer blind spots when there is only one lane in each direction. There is less sight blockage by cars. Vehicle speeds are lower on a three-lane road.

How does a complete street make biking safer?

Bicyclists and pedestrians can better share the road and can be seen more easily.

Possible Elements of COMPLETE STREETS

EXAMPLES FROM EXISITING RENO/SPARKS COMPLETE STREETS


CROSSWALK


BIKE LANE



TRANSIT SERVICE


CYCLE TRACK


BULB-OUTS AT CROSSWALK


SHARED LANE MARKING


BIKE LANE & ON-STREET PARKING

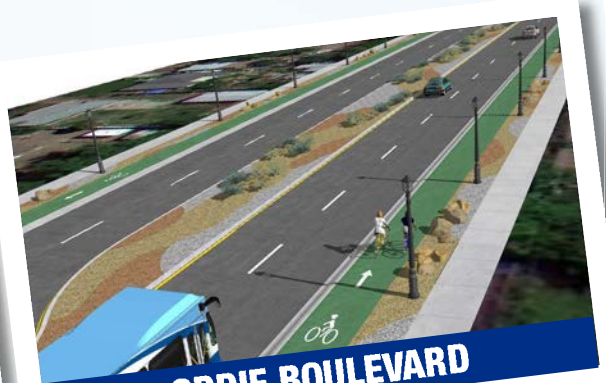

TRANSIT STOP

Recently Completed and Planned
COMPLETE STREETS

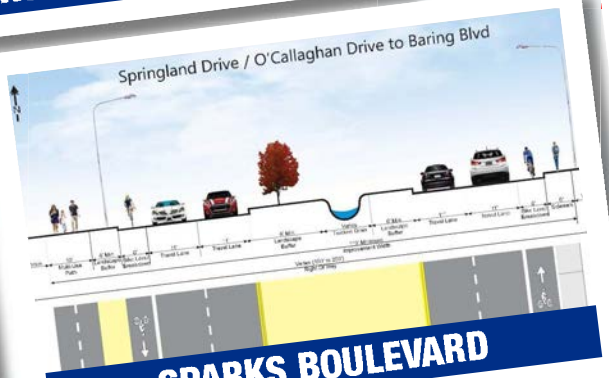
EXAMPLES FROM RENO/SPARKS AREA



VIRGINIA STREET



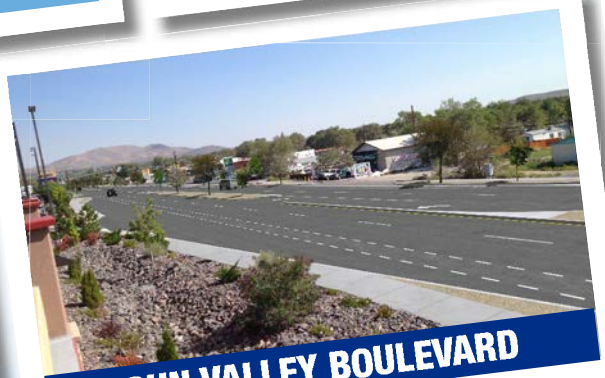
ODDIE BOULEVARD



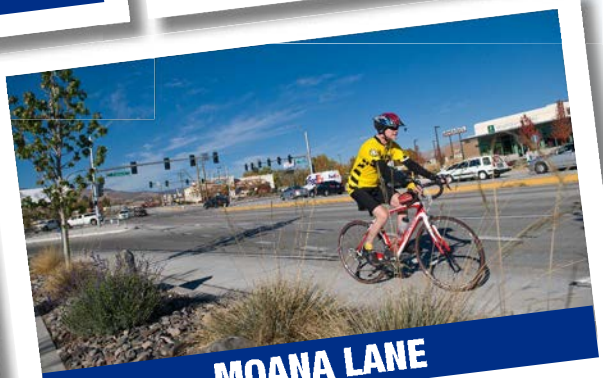
SPARKS BOULEVARD



4TH ST AND PRATER WAY

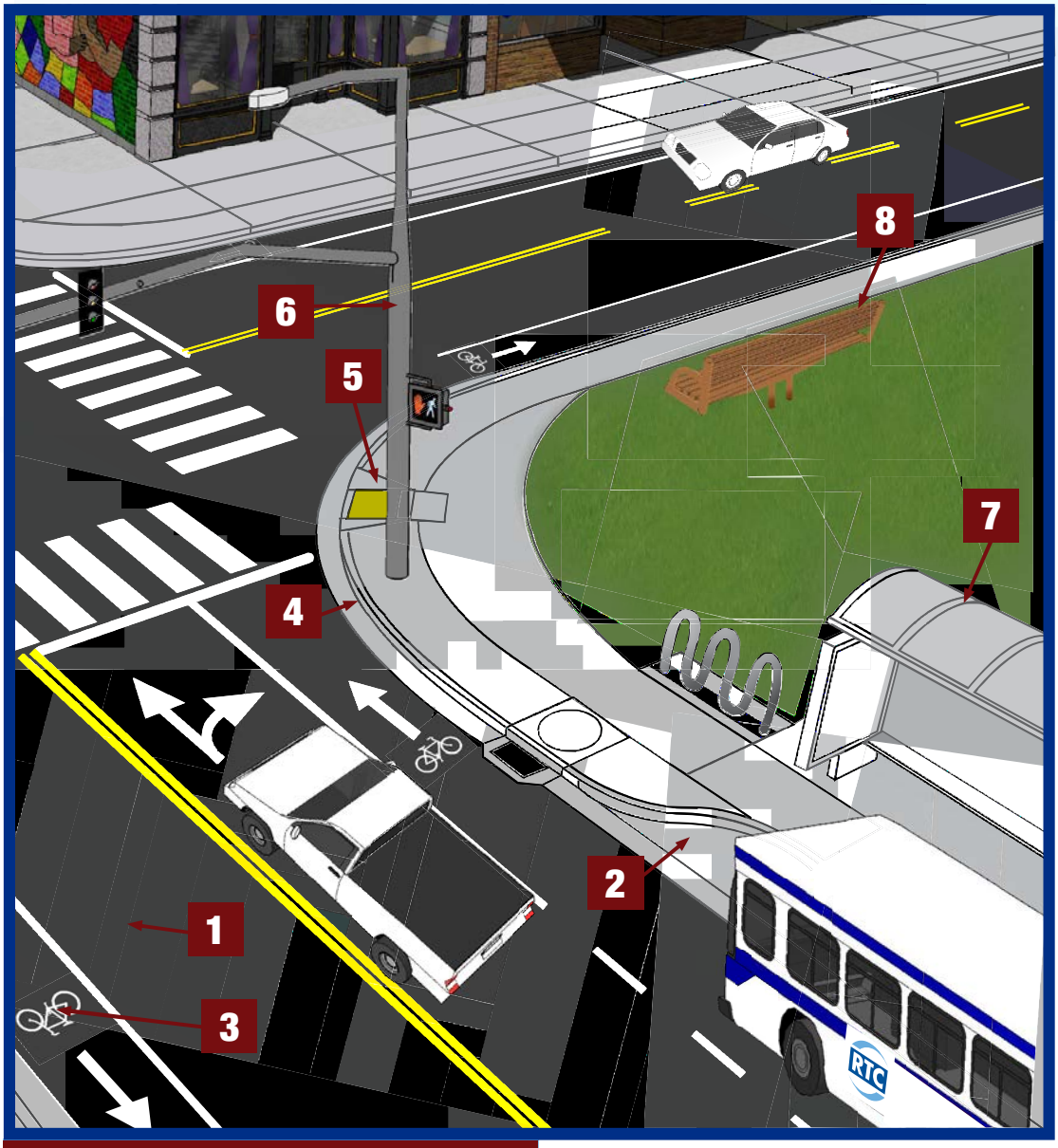


SUN VALLEY BOULEVARD



MOANA LANE

Possible Elements of COMPLETE STREETS



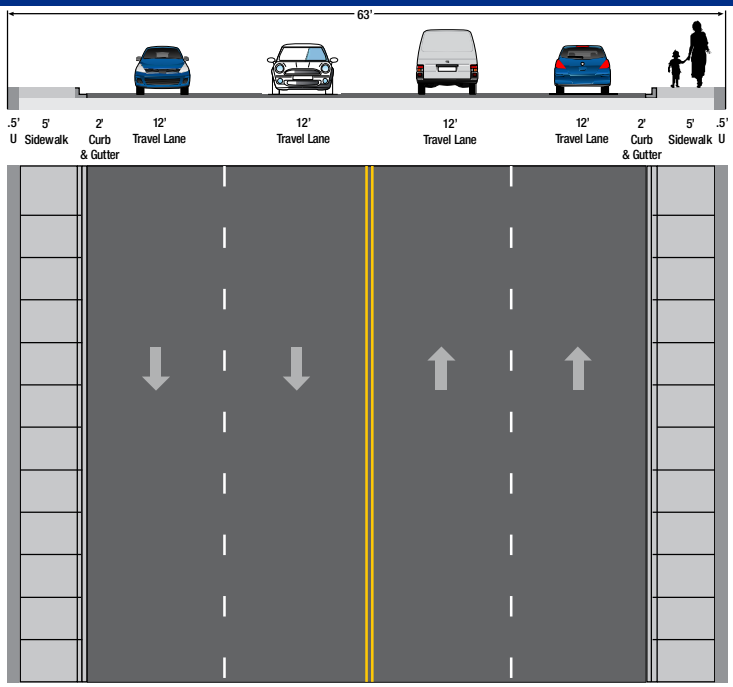
Toolbox of Some Complete Street Elements:

1. Vehicle Travel Lanes
2. Bus Turnouts
3. Bicycle Lanes
4. Curb and Gutter
5. Sidewalks and ADA Ramps
6. Traffic Signals
7. Transit Stop and Amenities
8. Street Furniture and Landscaping

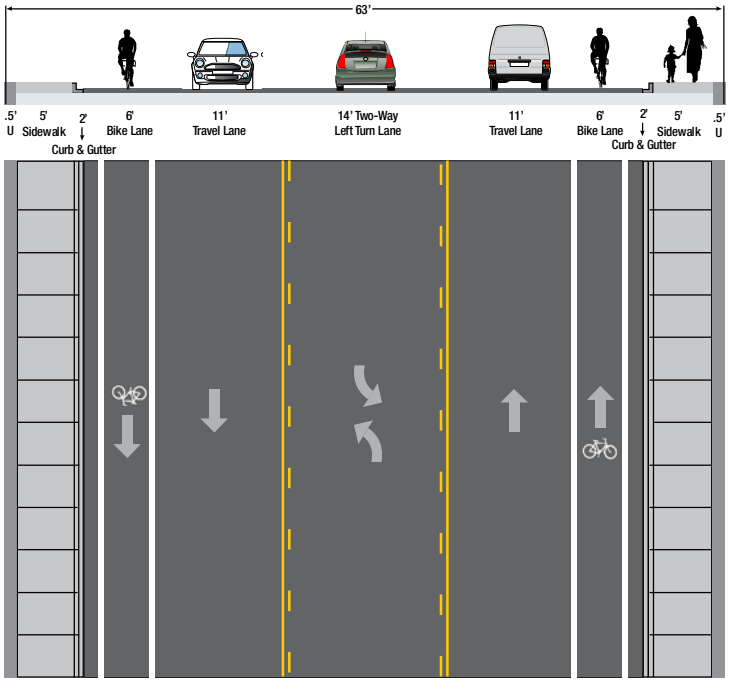
Example of Lane Reduction
COMPLETE STREETS

CONSIDERED ON ROADWAYS WITH:
LESS THAN 18,000 VEHICLES PER DAY ★ LESS THAN 1,500 VEHICLES PER HOUR

EXISTING STRIPING



POSSIBLE COMPLETE STREET STRIPING



COMPLETE STREETS MASTER PLAN

RTC

Kimley»Horn

Subject: Complete Streets Master Plan Public Meeting

Date/Time: Tuesday, September 29, 2015/5:00 PM

SIGN-IN-SHEET

	NAME	ADDRESS	EMAIL
1.	*Devin Moore*	*3105 Fairwood Dr, Reno, NV 89502*	*devinvmoore@gmail.com*
* 2.	Michael Schneider	8150 Fire Opal Lane Reno, 89506	MichaelReno@live.com
3.	Clif Usher	6387 Meadow Hill Cir, Reno, NV 89519	cusher@charter.net
4.	Jim Rundle	City of Sparks	jrundle@cityofsparks.us
5.	Kyle Smith	316 California Avenue, #3C, Reno, NV, 89509	kSmith2@unr.edu
6.	Patty Kershaw	1855 BARING Blvd #2205 SPARKS NV	RedHeadV8@YAhoo.com
7.	Leo Horishny	5216 Valley Hi Dr. S.V. NV 89433	horishny@saturnet.com
8.	Cole Peiffer	6170 Ridgeview Ct., Reno, NV 89509	peiffer@traffic-works.com
9.	Scott Carey	1361 Coupler Court Sparks NV 89434	Shcarey@sbcglobal.net
10.	ARMANDO CORNELIAS	431 Prater Way sparks 89431	acornelas@cityofsparks
11.	Christina Leach		Christina.leach@dot.gov
12.	David Keek	5045 ROSS DR 89519	dii.kae@gmail.com
13.	CAROL PERRY	1710 WOODTRAIL DR 89434	cperry@r
14.	Emily Flagg	5580 Wedgewood Cir 89436	emily.flagg@jacobs.com
15.			
16.			
17.			

COMPLETE STREETS MASTER PLAN

RTC

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Subject: Complete Streets Master Plan Public Meeting

Date/Time: Tuesday, September 29, 2015/5:00 PM

SIGN-IN-SHEET

	NAME	ADDRESS	EMAIL
18.	Andrew Jayankura	10765 Amber Falls Dr	ajayankura@gmail.com
19.	Peter Stanton	915 Forest #1	peter.james.stanton@gmail
20.	John Krmpotic		JohnK@KLSDesignGroup.com
21.	Rosemarie Jacobs	1725 C. St. Sparks, NV. 89431	mousgirl512yahoo.com
22.	CARLOS CRUZ	1702 A St #C110 Sparks 89431	Cruz2Texas@yahoo.com
23.	Joe Harrington	1105 Terminal Way Reno	jharrington@rtcwashoe.com
24.			
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COMPLETE STREETS MASTER PLAN

RTC

Kimley»Horn

* Let's be sure to add these to the database.

Subject: Complete Streets Master Plan Public Meeting

Date/Time: Tuesday, October 13, 2015/5:00 PM

SIGN-IN-SHEET

	NAME	ADDRESS	EMAIL
1.	*Devin Moore*	*3105 Fairwood Dr, Reno, NV 89502*	*devinvmoore@gmail.com*
2.	Joshua Bertain	3030 Leadership PKWY Reno NV 89503	Jebertain@gmail.com
3.	Ryan Christenson	669 S. Virginia St. Reno, 89501	Ryan@Stockpointe.com
4.	JAIME TUDDAO	NDOT	jtuddao@dot.State.NV.us
5.	KATHY PRICE-TOBY	3550 PARQUE VERDE LN Reno 89502	okckatz@gmail.com
6.	Shannon Ahartz	5370 Kitzke Ln, Reno	Shannon.Ahartz@Kimley-Horn.com
7.	Michael Mosley	5370 Kitzke Ln, Reno	michael.mosley@kimley-horn.com
8.	John Cowan	1417 Humboldt St Reno	[illegible]
9.	Patty Evans	1155 Mill Street 89502	PEvans@Renown.org
10.	Emmett Esnard	411 Locust St 89502	E.Esnard.87@Gmail.com
11.	John Sagebiel	UNR	jsagebiel@unr.edu
12.	Chris Askin	4635 Kathleen Devine Ln 89503	chrisaskin@sbcglobal.net
13.	Rebecca Whistler	500 Ridge St. Reno, NV 89501	rebecca@nevadacancercoalition.org
14.	Ernie McNeill	1175 CLIFF PARK WAY RENO 89523	EMCNEILL@SBCGLOBAL.NET
15.	Jessica Shuman	960 S. Virginia	JunkJess@icloud.com
16.	Devon Snyder	1308 Buena Vista Ave.	devonkatesnyder@gmail.com
17.	STEVE BUNNELL		BUNNELLS@RENO.GOV

(D)

COMPLETE STREETS MASTER PLAN

RTC

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Subject: Complete Streets Master Plan Public Meeting

Date/Time: Tuesday, October 13, 2015/5:00 PM

SIGN-IN-SHEET

	NAME	ADDRESS	EMAIL
18.	CAROL GADDA	46 CYNTHIA PL. RENO 89509	CGADDA03@gmail.com
19.	George McKinlay	411 POPLAR ST RENO 89512	mckinlay@me.com
20.	DAN DOENGES	11025 BONDSHIRE DR, RENO 89511	ddoenges@sbcglobal.net
21.	DEAN HITCHCOCK		dhitchcock@unr.edu
22.	Ken Ong	516 S. Virginia St 89501	KENO LARGO@MAC.COM
23.	Bryan Stieger	161 Wonder St. Reno, NV 89502	Bryan@Stremmelgallery.com
24.	Kristen Power	35 Black Pool Ct. Reno NV 89511	powerkristen@yahoo.com
25.	Eric Seuss	2475 White Pine Dr	eSeuss@TCNEV.com
26.	Joanna Trieger	1425 Lander Street Reno NV 89509	joanna.trieger@unr.edu
27.	Addison Wilhite	1315 Watt St. Reno NV 89509	addisonwilhite@gmail.com
28.	PAUL DOBER	822 S. VIRGINIA Reno 89502	recrecreno@earthlink.net
29.	Sondra Rosenberg	NDOT	srosenberg@dot.state.nv.us
30.	Andy TenBrink	1865 Flint Dr. Reno, NV 89503	renokayaker@gmail.com
31.	Morgan Trieger	1425 Lander St Reno NV 89509	Morgan.trieger@gmail.com
32.	THOR DYSON	310 GALLETTI WAY, SPARKS, NV 89431	tdyson@dot.state.nv.us
33.	Garth Oksol	#10560 Baton Ct Reno 89521	goksol@rtcwashoe.com

COMPLETE STREETS MASTER PLAN

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Subject: Complete Streets Master Plan Public Meeting

Date/Time: Tuesday, October 13, 2015/5:00 PM

SIGN-IN-SHEET

	NAME	ADDRESS	EMAIL
34.	John McCann	1308 Buena Vista Ave Reno 89503	mccannjw@gmail.com
35.	Erin Breen	1706 Twain Ave Las Vegas 89169	SCP.UNLV@GMAIL.COM
36.	Barb Santner	15047 Heathcliff Dr. Reno, NV 89511	barb.santner@stantec.com
37.	Devon Ekberg	890 Pinebrook Rd	devonkae@gmail.com
38.	Angie Hueftle	8740 Eaglenest Road Sparks, NV 89436	ahueftle@charter.net
39.	Jenny Brekhus	181	
40.	Janet Phillips	4790 Caughlin Pkwy #138, Reno 89519	tahoeprairiebike@aol.com
41.	Heather Lee Jones	955 S Virginia St #102 Reno 89502	heather@happypuppyreno.com
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Complete Streets Master Plan: Public Open House Meeting—September 29, 2015					
No.	**Source**	**Date**	**Map Quadrant/ Contact Info**	**Comment**	**Response/Comment**
1*	Comment Card	9/29/2015	N/A	-Pedestrian improvements are needed between Pyramid and 12th Street on Prater Way in Sparks. -Arlington is a good corridor to use for bike and peds between downtown and UNR. -Use railroad right-of-way to add separated path on Evans next to UNR.	The desire for enhanced pedestrian facilities on Prater will be included in the Compete Streets analysis. Of-street paths are beyond the scope of this project but the recommendations for the path will be forwarded to the RTC for consideration.
2	Comment Card	9/29/2015	N/A	-Connect 6 Route + 9 Route by extending 6 Route to Kietzke -Casino Route Centennial Baldini's/G-Sierra Atlantis + Back	Bus routing recommendation has been provided to the RTC for their consideration.
3	Comment Card	9/29/2015	Tr L. (916)-295-3812	Need Bus 54 close to Rock Street Need Bus 2 close to C Street Need bus close	Bus routing/stop recommendation has been provided to the RTC for their consideration.
4	Comment Card	9/29/2015	Rosemarie Jacobs 1725 C. Street Sparks, NV 89431 mawsgirl51@yahoo.com	I think RTC is doing a great job, but I do think there should be a bus stop back on the corner of Victorian + Rock so I don't have to walk so far at 4:50 AM to get downtown to get to work. Just an idea.	Bus stop recommendation has been provided to the RTC for their consideration.
5	Comment Card	9/29/2015	David Keele dii.kae@gmail.com	Thank you for the complete streets. The Truckee Meadows have become a much better place to get around for all forms of transportation. Speaking as both a driver and a cyclist, the improvements on Mayberry, Plumb, Plumas, Arlington, California and others have been most welcome. I look forward to seeing more.	So noted.
6*	Map	9/29/2015	Northwest Quadrant	Bike facilities really needed on N. Virginia Street	The desire for enhanced bicycle facilities in this area will be included in the Compete Streets analysis.
7	Map	9/29/2015	Northwest Quadrant	Buck Dr. 1 thru lane to 3 thru lanes on Sky Vista-confusing on what lane (Lane alignment) to go thru	The 1 eastbound through lane traveled through the intersection and there is 1 add-lane on Sky Vista, the driver should remain in the right lane on Sky Vista, then make a lane change if desired.
8	Map	9/29/2015	Northwest Quadrant	Newport Lane pavement conditions	Pavement maintenance is beyond the scope of this project. This comment will be forwarded to the RTC for their consideration.

*Denotes locations that will receive 5 bonus points in the Evaluation Matrix.

Complete Streets Master Plan: Public Open House Meeting—September 29, 2015					
No.	**Source**	**Date**	**Map Quadrant/ Contact Info**	**Comment**	**Response/Comment**
9	Map	9/29/2015	Northwest Quadrant	North Star Ranch.	The purpose of this comment is unclear. Therefore, it will not be addressed.
10*	Map	9/29/2015	Northwest Quadrant	Opal Station: no s/w on east, need striping, no lighting, no bike lanes	Opal Station is a residential street, minor collector. The scope of this project includes only major roadways within the modeling network. This comment will be forwarded to the RTC for consideration.
11*	Map	9/29/2015	Northwest Quadrant	Panther Drive no bike lane	It is assumed that this comment expressed desire for a bike lane on Panther Drive and the desire will be included in the Complete Streets analysis.
12	Map	9/29/2015	Northwest Quadrant	Bus US 395/Panther, walk time is insufficient	Signal timing is beyond the scope of this project. Comment will be forwarded to the RTC for consideration.
13*	Map	9/29/2015	Northwest Quadrant	Buffered bike lanes, sidewalks, and access to transit stops needed along N. Virginia Street between McCarran Boulevard and Lancaster Drive.	The desire for enhanced pedestrian, transit and bike facilities along this roadway will be included in the Compete Streets analysis.
14*	Map	9/29/2015	Northwest Quadrant	Make crossing easier for students to get to UNR and Rancho San Rafael Park on N. Virginia/ McCarran Blvd.	The desire for enhanced pedestrian facilities at these locations will be included in the Compete Streets analysis.
15*	Map	9/29/2015	Southwest Quadrant	Bike lanes needed on N. Sierra Street and Center Street through downtown. At least something through downtown N to S.	The desire for bike lanes along this roadway will be included in the Compete Streets analysis.
16*	Map	9/29/2015	Southwest Quadrant	Wells Avenue bridge should have bicycle lanes to provide north-south access over trench. No other access point between Evans and Sutro	The desire for bike lanes along this roadway will be included in the Compete Streets analysis.
17*	Map	9/29/2015	Southwest Quadrant	Bike Lanes needed on Center (Also 2-way bike path would be amazing!)	The desire for bike lanes along this roadway will be included in the Compete Streets analysis.
18*	Map	9/29/2015	Southwest Quadrant	Bike Lane on Rock stops south of intersection.	The desire for bike lanes on Rock Boulevard to the north or Greg street will be included in the Compete Streets analysis.
19*	Map	9/29/2015	Southwest Quadrant	Bike lanes on Greg.	The desire for bike lanes along this roadway will be included in the Compete Streets analysis.

*Denotes locations that will receive 5 bonus points in the Evaluation Matrix.

Complete Streets Master Plan: Public Open House Meeting—September 29, 2015					
No.	**Source**	**Date**	**Map Quadrant/ Contact Info**	**Comment**	**Response/Comment**
20	Map	9/29/2015	Southwest Quadrant	McCarran Boulevard east of Longley Lane: bike lanes?, sidewalks? Lots of runners here daily.	With the Southeast McCarran Boulevard Project (currently under construction), an 8-foot multi-use path will be constructed from the commercial development on Longley Lane to north of the Truckee River.
21	Map	9/29/2015	Southwest Quadrant	Green line segment on slightly off of Moana Lane west of Lakeside Drive is not "real".	So noted, map will be updated.
22	Map	9/29/2015	Southwest Quadrant	Provide more marked crosswalks or actual pedestrian flashers in the area containing Arlington Avenue, California Avenue, Plumas Street and Plumb Lane otherwise cars don't yield.	The desire for enhanced pedestrian facilities in this area will be included in the Compete Streets analysis.
23	Map	9/29/2015	Southwest Quadrant	Forest is a freeway! Two-way?	Forest is half of a one-way couplet with Center street, thus providing one-way travel.
24	Map	9/29/2015	Southwest Quadrant	Improve/create bike facility on Mesa Park Rd between W 4th St. and Sharlands Ave.	The desire for bike lanes on this facility will be included in the Compete Streets analysis.
25	Map	9/29/2015	Southwest Quadrant	Bike facility on Hunter Lake Dr. from Mayberry to Plumb would be most welcome	The desire for bike lanes on this facility will be included in the Compete Streets analysis.
26	Map	9/29/2015	Southwest Quadrant	Plumb Lane west is wide enough for a bike lane, but doesn't have one. (2nd this)	The desire for bike lanes on this facility will be included in the Compete Streets analysis.
27	Map	9/29/2015	Southwest Quadrant	Would be nice to have a bike lane or sharrow on Moana from Plumas to Virginia especially from Plumas to Lakeside very exposed to cars.	The desire for bike lanes on this facility will be included in the Compete Streets analysis.
28	Map	9/29/2015	Southwest Quadrant	Again, an indicated "Bike Lane" that is not marked in real life & essentially functions as a de facto right turn lane day in & day out! Damonte Ranch Pkwy from S Virginia Street to I-580.	The desire for enhanced bike facilities in this area will be included in the Compete Streets analysis.
29	Map	9/29/2015	Northeast Quadrant	Need to make U-turn to go to Spanish Springs Library dangerous condition.	Traffic operations is beyond the scope of this project. This comment will be forwarded to the RTC for consideration.
30*	Map	9/29/2015	Northeast Quadrant	Missing segment of sidewalk on west side of Sparks Blvd between Los Altos and Pyramid.	The desire for a sidewalk on this facility will be included in the Compete Streets analysis.

*Denotes locations that will receive 5 bonus points in the Evaluation Matrix.

Complete Streets Master Plan: Public Open House Meeting—September 29, 2015					
No.	**Source**	**Date**	**Map Quadrant/ Contact Info**	**Comment**	**Response/Comment**
31*	Map	9/29/2015	Northeast Quadrant	No bike lake markings! Dandini Blvd.	The desire for enhanced bike facilities on this roadway will be included in the Compete Streets analysis.
32	Map	9/29/2015	Northeast Quadrant	I would like to see a regular inventory of bike lanes to confirm or NOTE WHEN bike lanes aren't marked.	This comment will be forwarded to the RTC for their consideration.
33*	Map	9/29/2015	Northeast Quadrant	Why isn't this made into a complete curb to curb lane its part diet on the west side **still.** (Sullivan Lane north of Kelly Ranch Dr)	The desire for pedestrian and bike facilities along this roadway will be included in the Compete Streets analysis.
34*	Map	9/29/2015	Northeast Quadrant	This should have been upgraded for bike lane recently! It's a logical corridor for bike traffic into Sparks and out to the North Valleys. (Referring to Sullivan Lane)	The desire for bike lanes on this roadway will be included in the Compete Streets analysis.
35*	Map	9/29/2015	Northeast Quadrant	Because El Rancho is marked poorly as a bike lane, especially at the intersection of McCarran, it is regularly used as a turn lane by traffic choosing to not wait in the straight/right turn lane that is marked.	The desire for enhanced bike facilities along this roadway will be included in the Compete Streets analysis.
36*	Map	9/29/2015	Northeast Quadrant	No bike lane markings on El Rancho Drive between Wedekind Rd to Prater Way.	The desire for enhanced bike facilities along this roadway will be included in the Compete Streets analysis.
37*			Northeast Quadrant	On Prater between Pyramid and 12th Street there are big accessibility issues, need more pedestrian improvements.	The desire for enhanced pedestrian facilities on this roadway will be included in the Compete Streets analysis.
38*	Map	9/29/2015	Northeast Quadrant	Need a North-South route between Victorian + Oddie (e.g. 4th)	The desire for enhanced bicycle facilities in this area will be included in the Compete Streets analysis.
39*	Map	9/29/2015	Northeast Quadrant	Anything that could be done under the freeway on Kietzke to improve safety for cyclists traveling NE would be terrific.	The desire for enhanced bicycle facilities in this area will be included in the Compete Streets analysis.

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Complete Streets Master Plan: Public Open House Meeting—September 29, 2015					
No.	**Source**	**Date**	**Map Quadrant/ Contact Info**	**Comment**	**Response/Comment**
40	Map	9/29/2015	Northeast Quadrant	What's wrong with this signal (Oddie Blvd/12th)!? I can set right and trigger the light @ Rick and Oddie but never here at 12th where there is H.S. traffic, APTS. Many bicycles @ the Library. Plus the standard pushback—"It's too close to the turn lane to turn up the signal gain!" Is not applicable since it's only the one lane signal.	Bicycle detection recommendations at specific locations are beyond the scope of this project, but this recommendation will be forwarded to the RTC for consideration.
41*	Map	9/29/2015	Northeast Quadrant	If cyclists should ride on the wide sidewalks in this stretch (Sparks Blvd south of Lincoln Way) there should be signage indicating that. Sparks law says people older than 15 are not to ride on sidewalks. It isn't a mixed use path unless it's signed as a mixed used sidewalk.	The desire for enhanced bicycle facilities in this area will be included in the Compete Streets analysis.
42*	Map	9/29/2015	Northeast Quadrant	This section of McCarran (between Nichols Blvd and Nugget Ave.) needs to have attention paid to through cyclists N/S on McCarran and not just the E/W traffic from Victorian to Sparks Marina. Here! Here! Ditto!!	The desire for enhanced bicycle facilities in this area will be included in the Compete Streets analysis.
43	Map	9/29/2015	Northeast Quadrant	This is awesome, referring to Nichols Blvd and Victorian Avenue from Howard Dr. to Pyramid Way.	So noted.
44*	Map	9/29/2015	Southeast Quadrant	Add bike facilities on Arlington, Forest, and/or streets parallel to Virginia.	The desire for enhanced bike facilities along these roadways will be included in the Compete Streets analysis.
45*	Map	9/29/2015	Southeast Quadrant	Add bike facilities on Plumas (Mt. Rose to downtown)	The desire for enhanced bike facilities along this roadway will be included in the Compete Streets analysis.
46*	Map	9/29/2015	Southeast Quadrant	Add bike facilities on Mt. Rose	The desire for enhanced bike lanes on this facility will be included in the Compete Streets analysis.
47*	Map	9/29/2015	Southeast Quadrant	No EB bike lane on Mill b/w Ryland & Kietzke.	The desire for enhanced bike facilities along this roadway will be included in the Compete Streets analysis.

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Complete Streets Master Plan: Public Open House Meeting—September 29, 2015					
No.	**Source**	**Date**	**Map Quadrant/ Contact Info**	**Comment**	**Response/Comment**
48*	Map	9/29/2015	Southeast Quadrant	Bike facilities –lanes on either Vassar and/or Plumb, would help east-west travel	The desire for enhanced bike facilities on these roadways will be included in the Compete Streets analysis.
49	Map	9/29/2015	Southeast Quadrant	Peckham @ Baker NB RT pork chop Ln too small to make RT.	Intersection configuration is beyond the scope of this project. This comment will be forwarded to the RTC for consideration.
50*	Map	9/29/2015	Southeast Quadrant	Extend proposed bike on Lakeside south of McCarran.	The desire for bike lanes on this facility will be included in the Compete Streets analysis.
51	Map	9/29/2015	Southeast Quadrant	Connect neighborhoods with regional park.	Regional park planning is beyond the scope of this project. This recommendation will be forwarded to the RTC for consideration.
52	Map	9/29/2015	Southeast Quadrant	Need to connect trails with BLM lands and trails in South Valleys	Off-street trail planning is beyond the scope of this project. This recommendation will be forwarded to the RTC for consideration.
53	Map	9/29/2015	Southeast Quadrant	Multi use path Greiger Grade.	Off-street trail planning is beyond the scope of this project. This recommendation will be forwarded to the RTC for consideration.
54	Map	9/29/2015	Southeast Quadrant	Add bike facility on southeast connector	A 10-foot multi-use path is proposed along the alignment of the Southeast Connector.
55	Map	9/29/2015	Southeast Quadrant	Very excited for the SE connector with bike facilities.	So noted.
56*	Map	9/29/2015	Southeast Quadrant	Bike facilities (bike lane) on the last three sections of McCarran without them. (Between Longley Ln and Rio Poco Rd.; between Capital Blvd and Mill Street; and between Lincoln Way and Prater Way)	The desire for enhanced bike facilities along this roadway will be included in the Compete Streets analysis.
57*	Map	9/29/2015	Southeast Quadrant	This road (Alexander Lake Rd) has “Bike Prohibited” signs but cars are allowed. This is probably not legal. It also goes through a recreation area. Please remove the bike restriction.	The desire for enhanced bike facilities along this roadway will be included in the Compete Streets analysis. Comment will also be forwarded to the RTC for consideration.
58	Map	9/29/2015	Southeast Quadrant	Any transit considerations/express service from Sparks to South Reno? Maybe on SE Connector?	Transit route planning is beyond the scope of this project. Comment will be forwarded to the RTC for their consideration.
59*	Map	9/29/2015	Southeast Quadrant	Rock Blvd north of Mill Street is dangerous for cyclists.	The desire for enhanced bike facilities along this roadway will be included in the Compete Streets analysis.

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All comments were addressed by: DVM

End of Comments from Spark Public Meeting (9/29/2015)

Complete Streets Master Plan: Public Open House Meeting—October 13, 2015					
No.	**Source**	**Date**	**Map Quadrant/ Contact Info**	**Comment**	**Response/Comment**
60	Comment Card	10/13/2015	Morgan Trieger 1425 Lander Street Reno, NV 89509 morgan.trieger@gmail.com	Two general ideas/improvements that would go a long way towards complete streets: 1. Wherever existing or proposed complete streets intersect (eg. Plumb/Arlington, McCarran/Skyline, McCarran, Cashill), stop light sensors need to pick up bicycles. Otherwise bikes are forced to run red lights, or wait (and wait …) for a car to pull up behind. 2. Green Paint within bicycle lanes/cycle tracks, especially in congested areas (e.g., Virginia St thru downtown, California from Virginia St. to Arlington, etc.) Thanks!	Bicycle detection recommendations at specific locations is beyond the scope of this project. Recommendation for bicycle detection and more green paint for bike lanes will be forwarded to the RTC for consideration.
61	Comment Card	10/13/2015	Kristen Power kristen@nevadacancercoalition.org	Thanks for hosing this workshop so we could see the plans and contribute. The Nevada Cancer Coalition supports Complete Street Policy & walkable/bikable/rollable communities as an important part of cancer prevention and control. Thank you!	So noted.
62	Comment Card	10/13/2015	N/A	Along with bike lanes and sidewalks, I think planting trees & providing adequate shade for aesthetics/air quality/ comfort would greatly improve walkability in our city. I'm excited to see that RTC is planning more & better interconnected complete streets. Please consider more separate, protected bike lanes.	So noted.

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Complete Streets Master Plan: Public Open House Meeting—October 13, 2015					
No.	**Source**	**Date**	**Map Quadrant/ Contact Info**	**Comment**	**Response/Comment**
63	Comment Card	10/13/2015	N/A	RTC has done more for cycling in the last 5 years then was ever done before. Please keep the cyclists in mind in the future. With the influx of folks to Tesla and the like, more and more recreational cyclists will be coming to the area.	So noted.
64*	Comment Card	10/13/2015	Joanna Trieger (510)-210-1792 joanna.trieger@gmail.com jtrieger@unr.edu	It is essential that we have a connected bike corridor running from the University through Midtown. A two-way cycle track on Center Street would concentrate cyclists into one place so that we could focus infrastructure onto that corridor and so that cross traffic would know what to do with north-south cycle traffic. Making this track separated and green striped would make the street more attractive and safer for the students, faculty, and community members that would use it daily.	The desire for enhanced bike facilities along this roadway will be included in the Compete Streets analysis.
65	Comment Card	10/13/2015	Andy renokayaker@gmail.com	RTC you guys have been doing a great job of implementing road diets/complete streets. We thank you for your efforts. Please remember TRUE complete streets service all users…the Midtown design fell short of this goal. As this master plan progresses let's try to stay focused on all user groups and not bow to the pressure a select group (like business owners) who fail to see the long term future of our roads and city!	So noted.

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Complete Streets Master Plan: Public Open House Meeting—October 13, 2015					
No.	**Source**	**Date**	**Map Quadrant/ Contact Info**	**Comment**	**Response/Comment**
66	Comment Card	10/13/2015	N/A	Two things are critical…complete streets need to provide extensive connectivity that is safe for all modes—bikes and peds especially. The second is that if there are shared facilities for bikes + cars, the speed must be designed and posted for no more than 15 mph because otherwise calling it a "complete" street is disingenuous. The downtown, UNR, Midtown areas should be dominated by pedestrian and bike friendly infrastructure (cycle tracks!) to eventually promote Bike Share and create a transportation system that is human scale and built around making amazing places for people. I want the downtown area to look like Copenhagen of the U.S.	So noted.
67*	Map	10/13/2015	Downtown	Bike racks along E. 2nd Street by the hospital.	The desire for enhanced bike facilities/amenities near the hospital will be included in the Compete Streets analysis.
68*	Map	10/13/2015	Downtown	Make bike contra-lane on 1st Street by City Hall.	The desire for enhanced bike facilities along this roadway will be included in the Compete Streets analysis.
69*	Map	10/13/2015	Downtown	We need bike lanes down 4th Street both directions.	The desire for enhanced bike facilities along this roadway will be included in the Compete Streets analysis.
70	Map	10/13/2015	Downtown	Crossing 6th on Evans is currently very dangerous because cars on 6th stop randomly and try to wave bikes through. We need to concentrate bikes onto one street so cars don't have to keep stopping.	So noted. Comment/suggestion will be forwarded to the RTC for consideration.
71	Map	10/13/2015	Downtown	Speeds should at least be uniform—and slow enough to serve peds, bikes too! Best for business to have "*20 is plenty*" mentality.	Speed limits policy is beyond the scope of this project. Comment/ suggestion will be forwarded to the RTC for consideration.
72	Map	10/13/2015	Downtown	Narrow lanes to add safety measure for bikes & peds will help downtown business and define downtown.	Comment/suggestion will be forwarded to the RTC for consideration.

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Complete Streets Master Plan: Public Open House Meeting—October 13, 2015					
No.	**Source**	**Date**	**Map Quadrant/ Contact Info**	**Comment**	**Response/Comment**
73*	Map	10/13/2015	Downtown	Do shared lane marking for bikes between 4th St and the court house on Virginia.	The desire for enhanced bike facilities along this roadway will be included in the Compete Streets analysis.
74*	Map	10/13/2015	Downtown	Sierra St. bike lane—continue	The desire for enhanced bike facilities along this roadway will be included in the Compete Streets analysis.
75	Map	10/13/2015	Downtown	Why was Midtown singled out for bike lanes-when all of Virginia does not have any? Concerned about greater connectivity.	Bike lanes are planned in mid-town to increase person-mobility/ connectivity, particularly for cyclists.
76	Map	10/13/2015	Downtown	The Truckee River is the only E-W bike artery—RTC should take it over from parks!	So noted. Comment will be forwarded to the RTC for consideration.
77	Map	10/13/2015	Downtown	Add a bike/ped underpass to new VA St. bridge on south side.	Off-street trails are beyond the scope of this project. Comment will be forwarded to the RTC For consideration.
78*	Map	10/13/2015	Downtown	I would love to see a flasher for the crosswalk at Thoma & Virginia, it is very dangerous.	The desire for enhanced pedestrian facilities at this crossing will be included in the Compete Streets analysis.
79	Map	10/13/2015	Downtown	I would like to see more crosswalks w/ flashers & a slower speed limit on Virginia Street through Midtown.	The desire for enhanced pedestrian facilities in this area will be included in the Compete Streets analysis.
80	Map	10/13/2015	Downtown	Slower speed limit on Virginia St. Crosswalks with flashers More left turns in Midtown	Speed limit policy is beyond the scope of this project. It is recommended that the RTC follow the NDOT guidelines for midblock crossings.
81	Map	10/13/2015	Downtown	More turn lanes on Virginia St.	Roadway design is beyond the scope of this project. Comment will be forwarded to the RTC for consideration.
82	Map	10/13/2015	Downtown/Jess—Junkee	Please lets come together we all want a better place to live!	So noted.
83	Map	10/13/2015	Northwest Quadrant	Complete streets, it isn't restriping it means pedestrians are equal users of streets. Pedestrians need buffers from the road users including bikes. Shrink the roads and make the streets a destination critical around the University where many people have no vehicles and need to walk.	So noted. The desire for enhanced pedestrian facilities around UNR will be included in the Compete Streets analysis.
84	Map	10/13/2015	Northwest Quadrant	Breakouts like Reimagine Reno format	So noted. Comment will be forwarded to the RTC for consideration.

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Complete Streets Master Plan: Public Open House Meeting—October 13, 2015					
No.	**Source**	**Date**	**Map Quadrant/ Contact Info**	**Comment**	**Response/Comment**
85	Map	10/13/2015	Northwest Quadrant	Large, recent development atop the hill has made this intersection of McCarran & Leadership Pkwy. hazardous to both cars, pedestrians, and cyclists.	Specific safety improvements are beyond the scope of this project. Comment will be forwarded to the RTC for consideration.
86*	Map	10/13/2015	Northwest Quadrant	Creating a better crossing at keystone and I-80 would be very appreciated.	The desire for enhanced pedestrian and bike facilities in this area will be included in the Compete Streets analysis.
87*	Map	10/13/2015	Northwest Quadrant	4ht St./McCarran to Verdi needs bike lanes designated.	The desire for enhanced bike facilities along this roadway will be included in the Compete Streets analysis.
88*	Map	10/13/2015	Northwest Quadrant	This bike lane (lower portion of map) disappears with no outlet when you turn from California onto Virginia. We need a clearly-marked, safe outlet for this lane.	The desire for enhanced bike facilities along this roadway will be included in the Compete Streets analysis.
89*	Map	10/13/2015	Northwest Quadrant	Bike lane on Idlewild Drive.	The desire for enhanced bike facilities along this roadway will be included in the Compete Streets analysis.
90*	Map	10/13/2015	Southwest Quadrant	I can't wait to see some sort of bike lane/facility on Glendale. There is plenty of space and relatively little traffic. I bike there frequently commuting to work and regularly see a handful of other cyclists.	The desire for enhanced bike facilities along this roadway will be included in the Compete Streets analysis.
91	Map	10/13/2015	Southwest Quadrant	I would love to see flashers required on all crosswalks not located at an intersection.	It is recommended that the RTC follow the NDOT guidelines for midblock crossings.
92	Map	10/13/2015	Southwest Quadrant	Truckee River trail @ Lake St. currently ends in stairs. A ramp would be great!	Off-street trails are beyond the scope of this project. Comment will be forwarded to the RTC For consideration.
93*	Map	10/13/2015	Southwest Quadrant	Let's use Washington to extend bike lanes North to Rancho!	The desire for enhanced bike facilities along this roadway will be included in the Compete Streets analysis.
94*	Map	10/13/2015	Southwest Quadrant	-Add sidewalk on California to Mayberry. Stops at Residence Streets. -Recycle containers needed not just trash -Sidewalk from Foster to Plumb Ln (Hunter Lake) needs to be 5' wide. Bike lanes on 4th Street.	The desire for enhanced pedestrian facilities along California and Plumb (Hunter) and bike facilities on 4th Street will be included in the Compete Streets analysis. The comment on recycle containers being provided throughout the area will be forwarded to the RTC for consideration.

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Complete Streets Master Plan: Public Open House Meeting—October 13, 2015					
No.	**Source**	**Date**	**Map Quadrant/ Contact Info**	**Comment**	**Response/Comment**
95	Map	10/13/2015	Southwest Quadrant	The Keystone-California intersection is pretty crazy for cars, bikes, and people. I know space is tight, but there has to be some sort of better solution.	So Noted. Individual intersection conceptual design/planning is beyond the scope of this project. This comment will be forwarded to the RTC for consideration.
96	Map	10/13/2015	Southwest Quadrant	Implement W.C. trail easement connecting Zolezzi to Arrowcreek.	Off-street trails are not included in the scope of this project, but this recommendation for trail improvements will be forwarded on to the RTC.
97*	Map	10/13/2015	Southwest Quadrant	Since Midtown won't be getting bike lanes…let's make the sharrows VERY prominent!	The desire for enhanced bike facilities along this roadway will be included in the Compete Streets analysis.
98*	Map	10/13/2015	Southwest Quadrant	Bike lanes on S Virginia where it is definitely wide enough. Past Vassar no median and landscaping necessary.	The desire for enhanced bike facilities along Virginia will be included in the Compete Streets analysis.
99	Map	10/13/2015	Southwest Quadrant	I would love to see more trash receptacles along the Virginia Street corridor.	Trash receptacles are beyond the scope of the project. Comment will be forwarded to the RTC for their consideration.
100*	Map	10/13/2015	Southwest Quadrant	Hunter Lake Rd between Idlewild and Sharon has "Bicycle Route" signs, but no bike lane striping or any bike facility.	The desire for enhanced bike facilities along this roadway will be included in the Compete Streets analysis.
101*	Map	10/13/2015	Southwest Quadrant	Do shared street marking on Virginia through Midtown.	The desire for enhanced bike facilities along this roadway will be included in the Compete Streets analysis.
102	Map	10/13/2015	Southwest Quadrant	Moana west of Plumas dangerous! Add shoulders.	Shoulder evaluation is beyond the scope of the project. Comment will be forwarded to the RTC for their consideration.
103	Map	10/13/2015	Southwest Quadrant	I encounter several intersections on my daily bicycle commute that have traffic light sensors that are not activated by bicycle. Please upgrade sensors at complete street intersections, examples: McCarran @Cashill, McCarran @Skyline, Arlington@Plumb.	Bicycle detection recommendations at specific locations are beyond the scope of this project, but this recommendation will be forwarded to the RTC for consideration.
104*	Map	10/13/2015	Southwest Quadrant	Crosswalk @ California and Nixon.	The desire for enhanced pedestrian facilities at California and Nixon will be included in the Compete Streets analysis.

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Complete Streets Master Plan: Public Open House Meeting—October 13, 2015					
No.	**Source**	**Date**	**Map Quadrant/ Contact Info**	**Comment**	**Response/Comment**
105*	Map	10/13/2015	Southwest Quadrant	Lakeside Drive needs bike lanes.	The desire for enhanced bike facilities along this roadway will be included in the Compete Streets analysis.
106*	Map	10/13/2015	Southwest Quadrant	Plumb Ave west of Virginia has bike lanes, but none east of Virginia.	The desire for enhanced bike facilities along Plumb east of Virginia will be included in the Compete Streets analysis.
107*	Map	10/13/2015	Southwest Quadrant	As a resident of the South Hills Neighborhood, I would love to see a complete streets application on Foothill where it is proposed. At a minimum this section needs sidewalks & possible bike lanes. There is much new development at the Grove which has really increased traffic of all modes.	The desire for enhanced pedestrian and bike facilities along this roadway will be included in the Compete Streets analysis.
108*	Map	10/13/2015	Southwest Quadrant	-Make Baker at Redfield an ok left turn southbound. -Connect bike path from Sierra Rose west to Lakeside -Please add a little width to Lakeside on the curve just south of Windy Hill	The desire for enhanced bike facilities along Sierra Rose will be included in the Compete Streets analysis. The left turn permissions and lane widening are beyond the scope of this project, but the recommendation will be forwarded to the RTC for consideration.
109*	Map	10/13/2015	Southwest Quadrant	Connect Ridgeview Drive to McCarran Blvd for bikes.	The desire for enhanced bike facilities along this roadway will be included in the Compete Streets analysis.
110*	Map	10/13/2015	Southwest Quadrant	Windy Hill needs bike lanes uphill sides. Downhill we can ride at the speed limit	The desire for enhanced bike facilities along this roadway will be included in the Compete Streets analysis.
111	Map	10/13/2015	Southwest Quadrant	Gateway and South Meadows as well as Double R and South Meadows need audible signals for the visually impaired.	This is beyond the scope of this project, but the recommendation will be forwarded to the RTC for consideration.
112*	Map	10/13/2015	Southwest Quadrant	-Put sidewalks on Zolezzi Lane -Complete trail on WC easement between Zolezzi and Arrowcreek Pkwy other Fieldcreek subdivision -Need sidwalks + bike lanes on Foothill Rd. There are bus stops + kids walking in this neighborhood.	The desire for pedestrian facilities on Zolezzi and Foothill and enhanced bike facilities along Foothill will be included in the Compete Streets analysis. Off-street trails are not included in the scope of this project, but this recommendation for trail improvements will be forwarded on to the RTC.

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Complete Streets Master Plan: Public Open House Meeting—October 13, 2015					
No.	**Source**	**Date**	**Map Quadrant/ Contact Info**	**Comment**	**Response/Comment**
113*	Map	10/13/2015	Northeast	Bike lanes along El Rancho.	The desire for enhanced bike facilities along this roadway will be included in the Compete Streets analysis.
114*	Map	10/13/2015	Northeast	Existing bike lane NB lane missing under overpass (Kietzke Lane under I-80).	The desire for enhanced bike facilities along this roadway will be included in the Compete Streets analysis.
115	Map	10/13/2015	Northeast	Lane stops further from intersection (Greg St/Rock Blvd.) than usual.	Specific intersection configuration is beyond the scope of this project. Comment will be forwarded to the RTC for consideration.
116*	Map	10/13/2015	Southeast	Do a "share the lane" bike accommodation on Virginia through Midtown with green signage in lane.	The desire for enhanced bike facilities along this roadway will be included in the Compete Streets analysis.
117*	Map	10/13/2015	Southeast	-Complete bike lanes on Virginia in Midtown. -Safety in Mt Rose and Humboldt-Lander Area -Holcomb Ave. bike lane all the way	The desire for enhanced bike facilities along Virginia and Holcomb will be included in the Compete Streets analysis.
118	Map	10/13/2015	Southeast	Eliminate some route requirements to transfer (16 to 6) Hunter Lake to Lakeside specifically.	Transit route planning is beyond the scope of this project. Comment will be forwarded to the RTC for their consideration.
119*	Map	10/13/2015	Southeast	Wider roads and bike lanes through the Holcomb Ranch Rd/Windy Hill area.	The desire for enhanced bike facilities along this roadway will be included in the Compete Streets analysis.
120	Map	10/13/2015	Southeast	Existing bike lanes on Wilbur May Pkwy (marked on map).	So noted.
121*	Bike Maps	10/13/2015	RTC	Need a north-south route bike facility Victoria & Oddie (e.g. 4th)	The desire for enhanced bike facilities along this roadway will be included in the Compete Streets analysis.
122	Bike Maps	10/13/2015	RTC	Clarity of bike lanes thru downtown	The desire for enhanced bike facilities through Downtown will be included in the Compete Streets analysis.
123*	Bike Maps	10/13/2015	RTC	Connect UNR to downtown & Midtown with bikes lanes: Sierra, Virginia, Center, Evans (Make sure they cross I80)	The desire for enhanced bike facilities along this roadway will be included in the Compete Streets analysis.

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Complete Streets Master Plan: Public Open House Meeting—October 13, 2015					
No.	**Source**	**Date**	**Map Quadrant/ Contact Info**	**Comment**	**Response/Comment**
124*	Bike Maps	10/13/2015	RTC	Current bike facilities that have no outlets- they are confusing and unsafe for bikes and cares alike. We need better connections and intersections (*NOTE: This post-it was pointing to the map within the area of Plumb and Lakeside and Ardmore and Lakeside- both areas have planned facilities*)	So noted. The desire for enhanced bike facilities along these roadway will be included in the Compete Streets analysis.
125	Bike Maps	10/13/2015	RTC	Need to add the new shared use path on McCarran (near UNR Farms) to the map.	So noted.
126	Court Reporter	10/13/2015	Kasey Christensen	I would love to see some more crosswalks in our walkable downtown and midtown areas. And with those crosswalks, in order to make them safer, the addition of flashers. I know in particular, the stretch of Virginia Street traffic can go very fast, and it can feel very unstable to try to cross that street. Possibly reducing speed limits in that area, I could see a benefit as well. I am encouraged to see the work that RTC is planning to do along the Virginia Street corridor with the addition of wider sidewalks, street trees, bike lanes on the adjacent streets and better lighting. I hope RTC and the city continue to work together to see this plan come to fruition.	It is recommended that the RTC follow the NDOT guidelines for midblock crossings. Crosswalk planning is beyond the scope of this study, this comment will be forwarded to the RTC for consideration.

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Complete Streets Master Plan: Public Open House Meeting—October 13, 2015					
No.	**Source**	**Date**	**Map Quadrant/ Contact Info**	**Comment**	**Response/Comment**
127	Court Reporter	10/13/2015	John Cowan	My interests are just making sure that the bike lanes in the core area, extending out from the core into midtown are all contiguous, that it is an easy process of being able to see where you want to go through that part of town. I really am also a big sponsor of the Virginia Street project and making sure that the bike lanes coming down from the university all the way through downtown are east to see and contiguous. I have some further commentary on the safety of the streets and the possibility of bikes in the area of Humboldt and Laner on Mount Rose. As this area has grown transit-wise, with a lot of additional traffic attributable to the restaurants that are there, as well as just the overall concerns of people going through that S-curve fairly fast, I think is it pretty important to figure out how to put bikes through there and how we are going to get cars through there in a safe manner. Other than that, the only thing I would say additionally, is just to make sure that the bike path coming out towards Verdi is kept as clean, safe and well-striped as possible, with hopefully a little work on the fisherman's bridge down there by Mayberry park, and keeping that safe for bicycles would be a good idea, too, because that bridge is looking to be in bad shape. Those are the things that I want to say.	The desire for enhanced bike facilities in these areas will be included in the Compete Streets analysis. Striping, roadway alignment and bridge maintenance is beyond the scope of this project, this comment will be forwarded to the RTC for consideration.

*Denotes locations that will receive 5 bonus points in the Evaluation Matrix.

Complete Streets Master Plan: Public Open House Meeting—October 13, 2015					
No.	**Source**	**Date**	**Map Quadrant/ Contact Info**	**Comment**	**Response/Comment**
128	Court Reporter	10/13/2015	Joanna Trieger	I wanted to say that I think we need in the master plan to focus on trips and not just streets. So, how people get from where they live to where they work or between major destinations in town, not just striping three blocks of one street, but really thinking about how people move through the city. And as part of that, we need to focus a lot on connections of how people get from one bike lane street to another bike lane street, making those connections safe, and especially how they get through intersections, because I feel that is a spot where we are currently failing, is safe passage through intersections for bikes and pedestrians and cars. That's it.	So noted. This comment will also be forwarded to the RTC for consideration.
129	Court Reporter	10/13/2015	Jessica Schneider	The best thing about this meeting is I felt like we got together with the bicyclists and they understood our side: that we're not against bicyclists, that midtown business owners and bicyclists need to work together. That was the best part of the meeting. And we need to come up with creative solutions to have a really great street. We do not want midtown to look like Moana or Wells or even downtown Reno or Kietzke. That we want a funky, eclectic, great street that you can have many turns into many businesses so we all thrive.	So noted.

*Denotes locations that will receive 5 bonus points in the Evaluation Matrix.

Complete Streets Master Plan: Public Open House Meeting—October 13, 2015					
No.	**Source**	**Date**	**Map Quadrant/ Contact Info**	**Comment**	**Response/Comment**
130	Court Reporter	10/13/2015	Heather Jones	I was hoping to see greater connectivity of bike lanes from UNR through to downtown and midtown. I know that bikes can drive or ride on any street that they want to, but I heard a lot from bicyclists, they don't feel safe riding on South Virginia. So if there were continuous bike lanes from university down through downtown and midtown, I think that would be nice, if it's possible. I am looking forward to the meetings of redesign for South Virginia, definitely think we need more turn lanes, and the proposed roundabout might be a problem as Mary is a one-way street. And thank you for letting us have input.	The desire for enhanced bike facilities in these areas will be included in the Compete Streets analysis.

All comments were address by: DVM

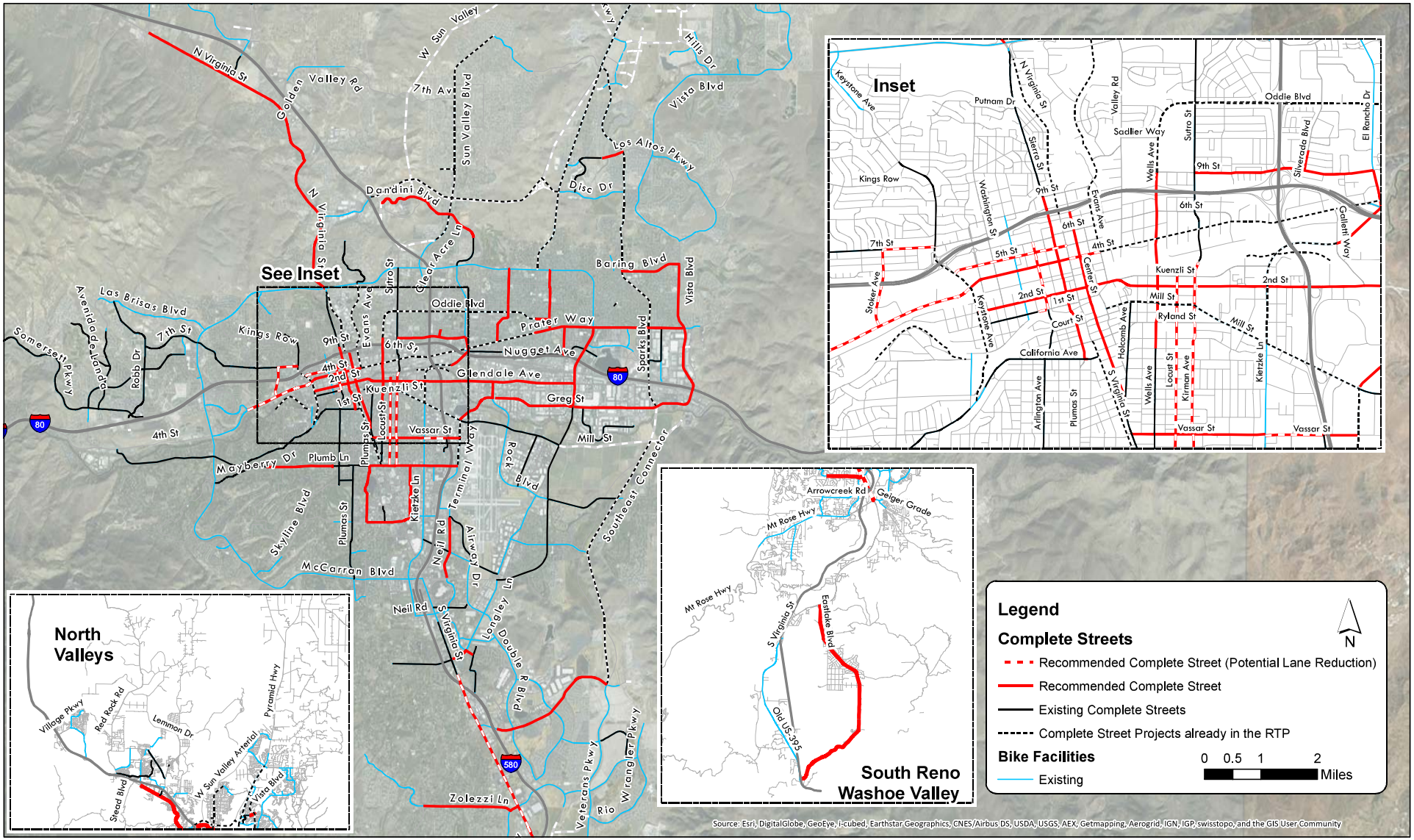
End of Comments from Reno Public Meeting (10/13/2015)

*Denotes locations that will receive 5 bonus points in the Evaluation Matrix.

APPENDIX B

WINTER 2016 PUBLIC MEETING MATERIALS AND PUBLIC COMMENTS

Recommended Complete Streets
Reno/Sparks



Path: K:\REN_Civil\092528 - Washoe RTC\007 - Complete Streets MP\GIS\Maps\2016-02-17 Maps\2016-01-22 Recommendations (Bike Existing).mxd

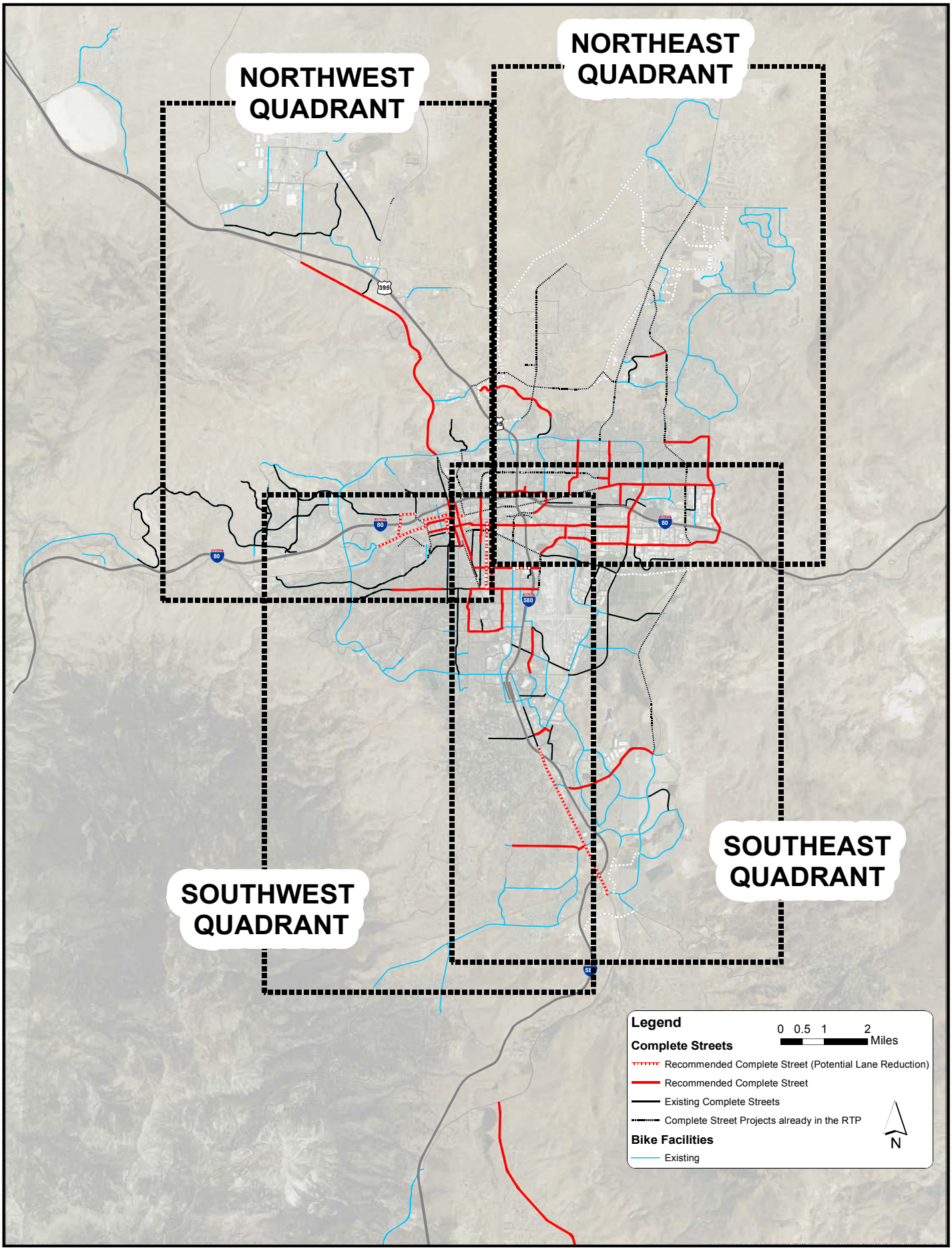
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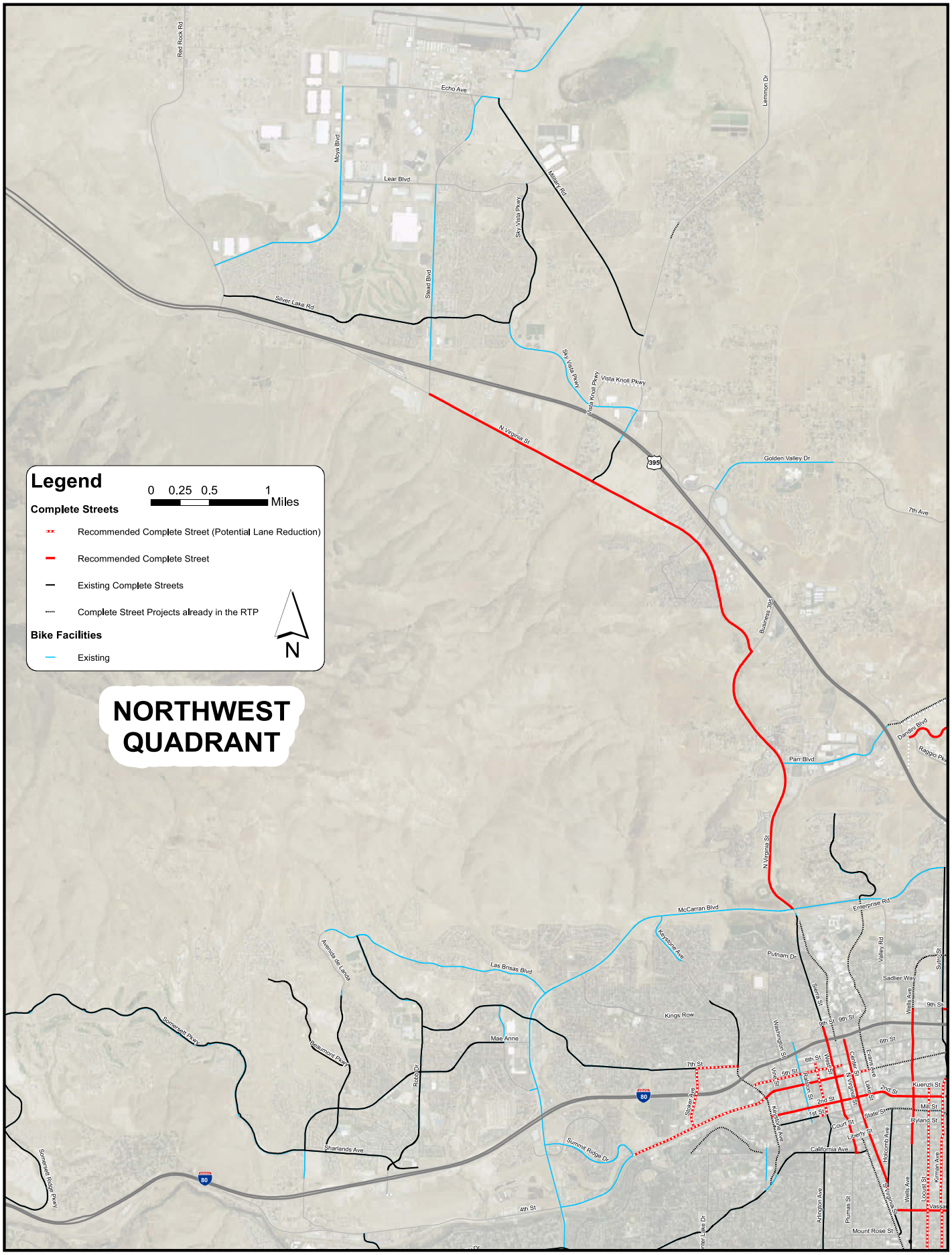
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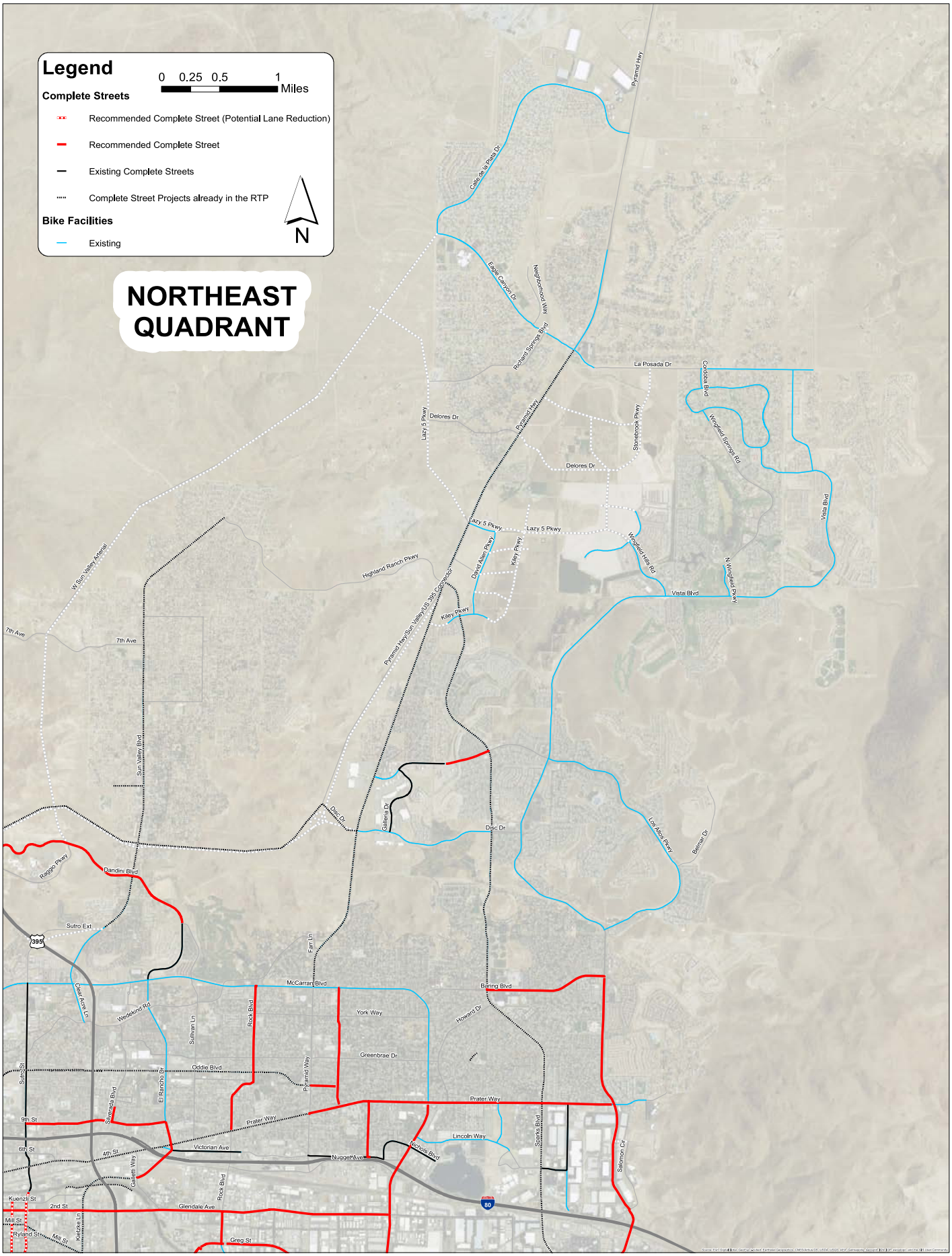
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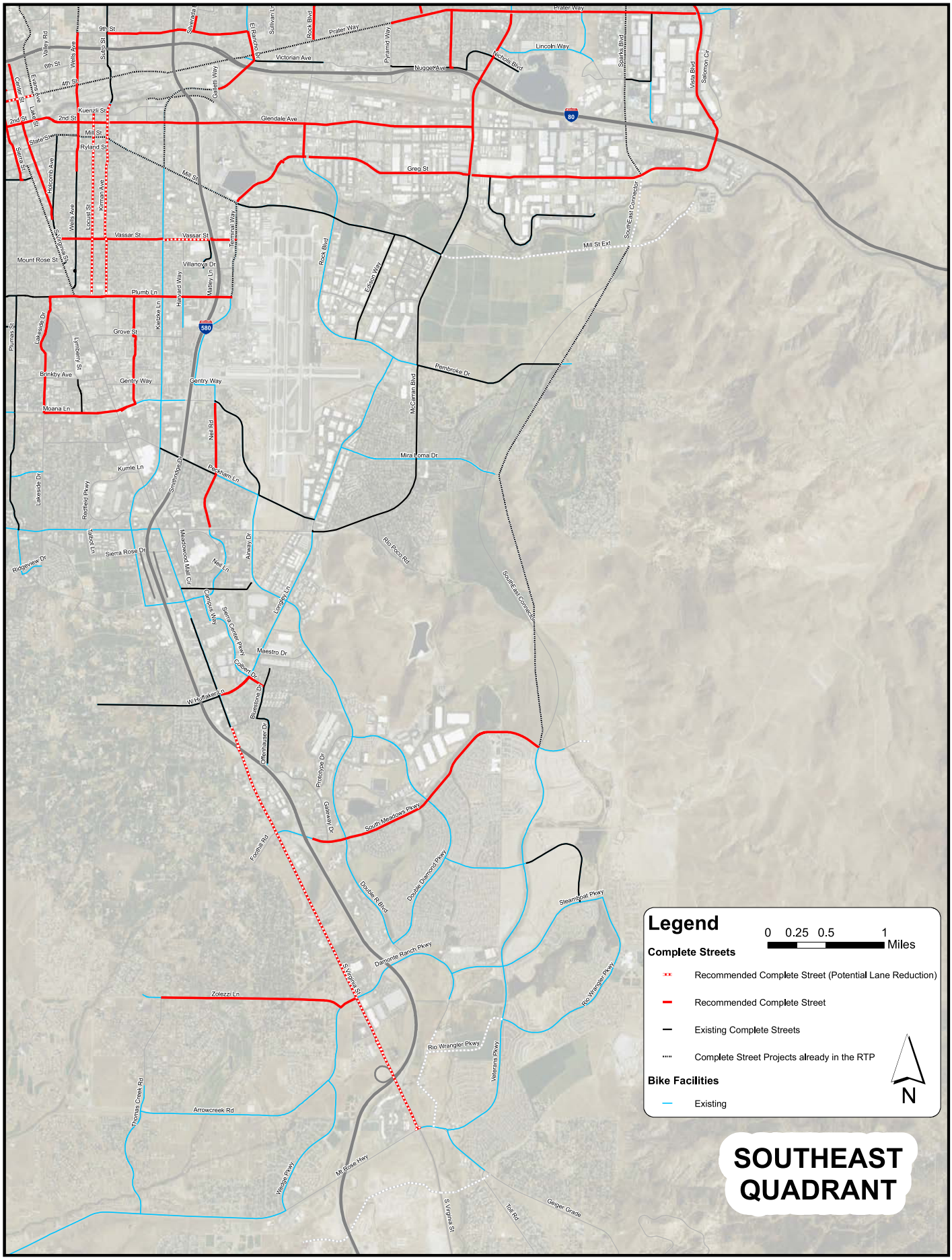
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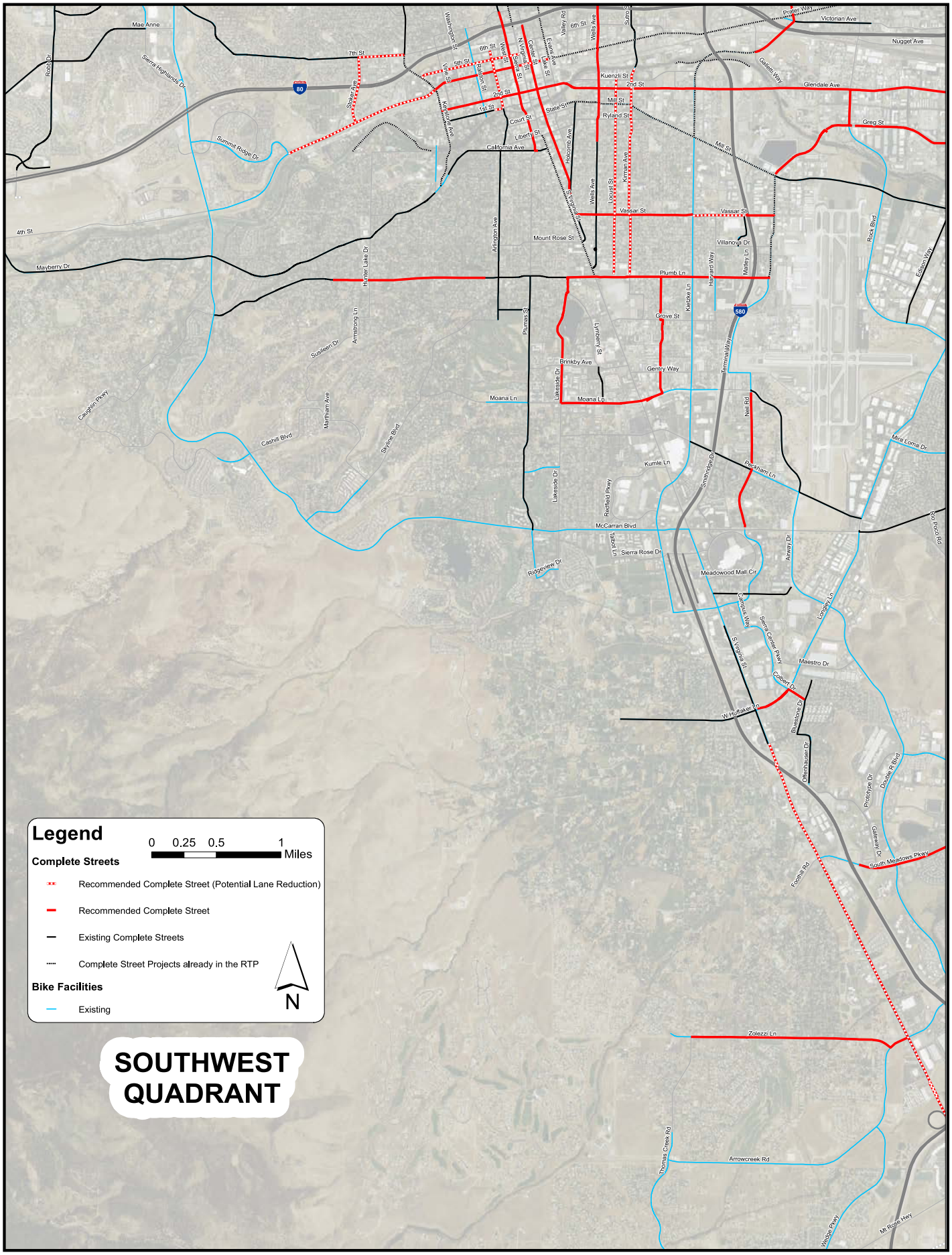
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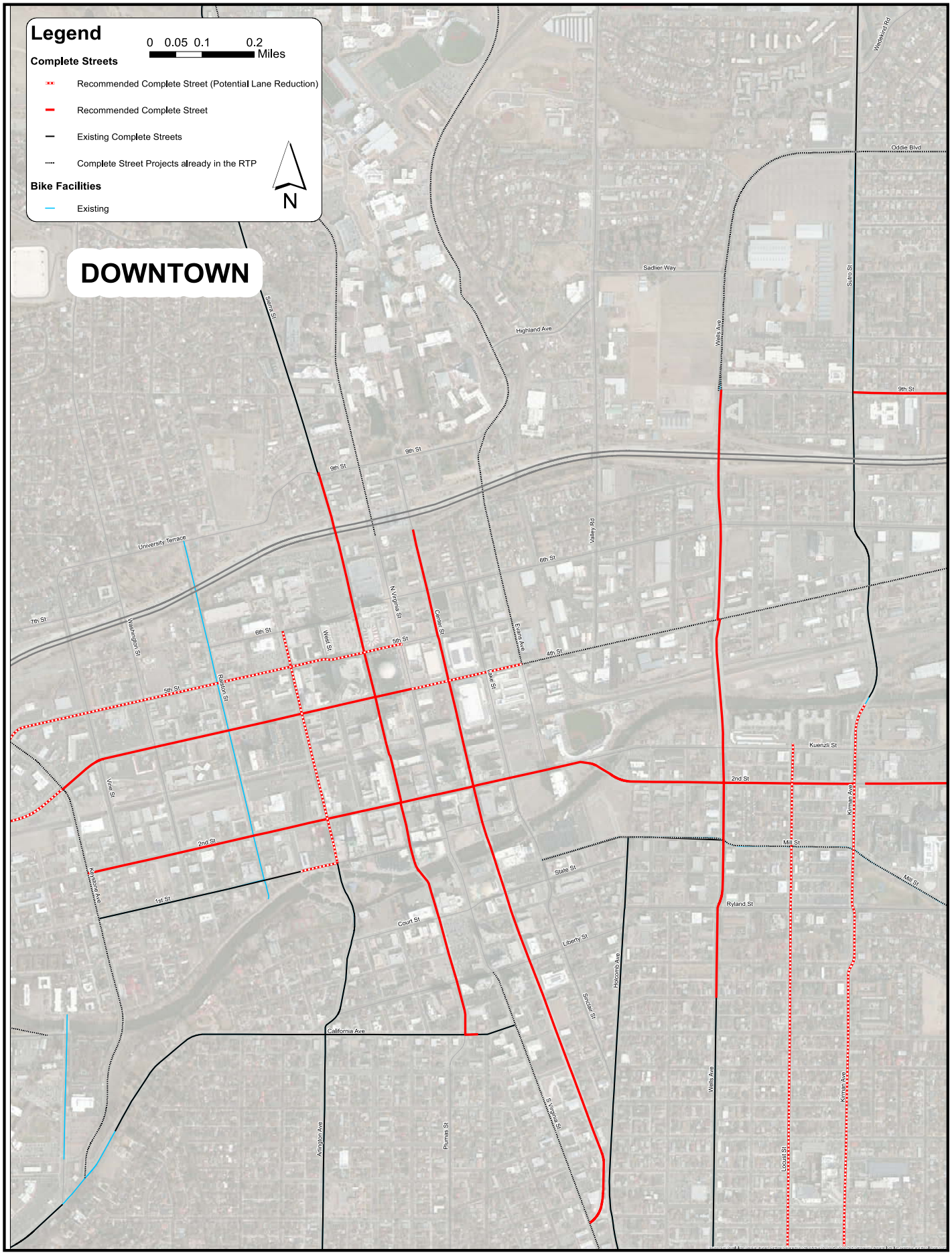
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Complete Streets Master Plan
Workshop February 17, 2016



Sutro Street

Riverside Drive



West Plumb Lane



Purpose of Study

- Develop a long-range strategy for implementing Complete Streets treatments
- Address concerns about the impact to traffic capacity as a result of Complete Streets
- Engage the community



Future Veterans Parkway

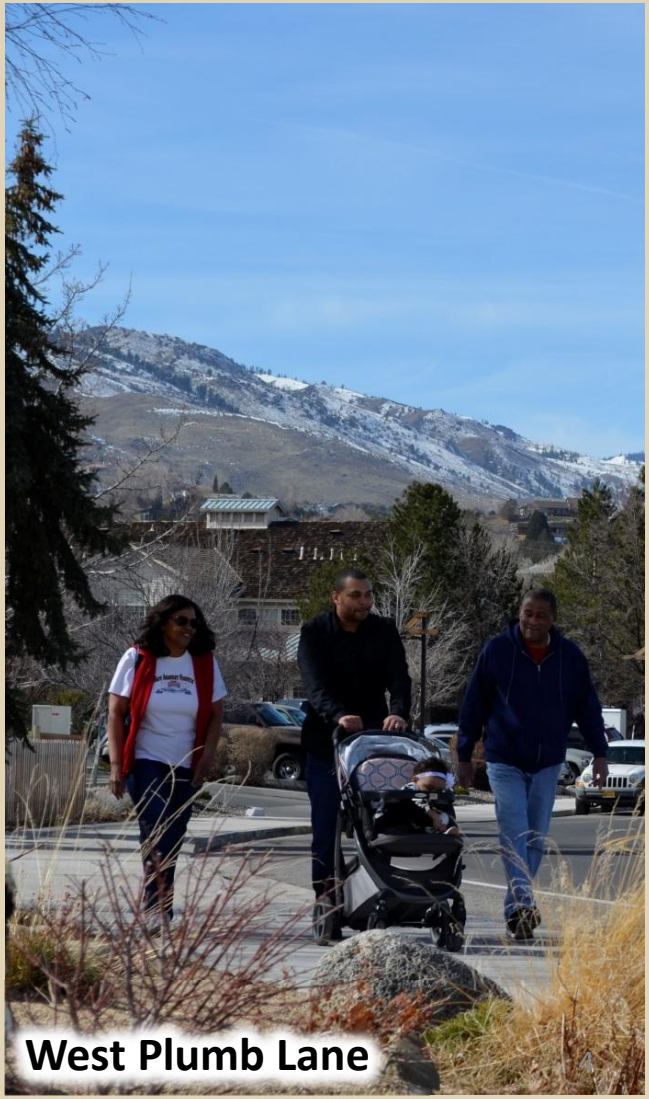
What is a Complete Street?

- Complete Streets are for everyone and they enhance safety
  - Users of all ages & abilities
  - Provide multimodal choices
    - Pedestrians
    - Bicyclists
    - Motorists
    - Transit riders
- Complete Streets make it easy to:
  - Cross the street
  - Walk to shops
  - Bicycle to work
  - They make it safe for people to walk to and from transit stations


Plumas Street

Benefits of Complete Streets

- **Safety Improvements**
- **Improved Mode Choice**
- **Economic Growth**
- **Public Health**
- **Reduced Congestion**
- **Improved Air Quality**
- **Aesthetic Improvements**



West Plumb Lane

Recently Completed Complete Streets Projects

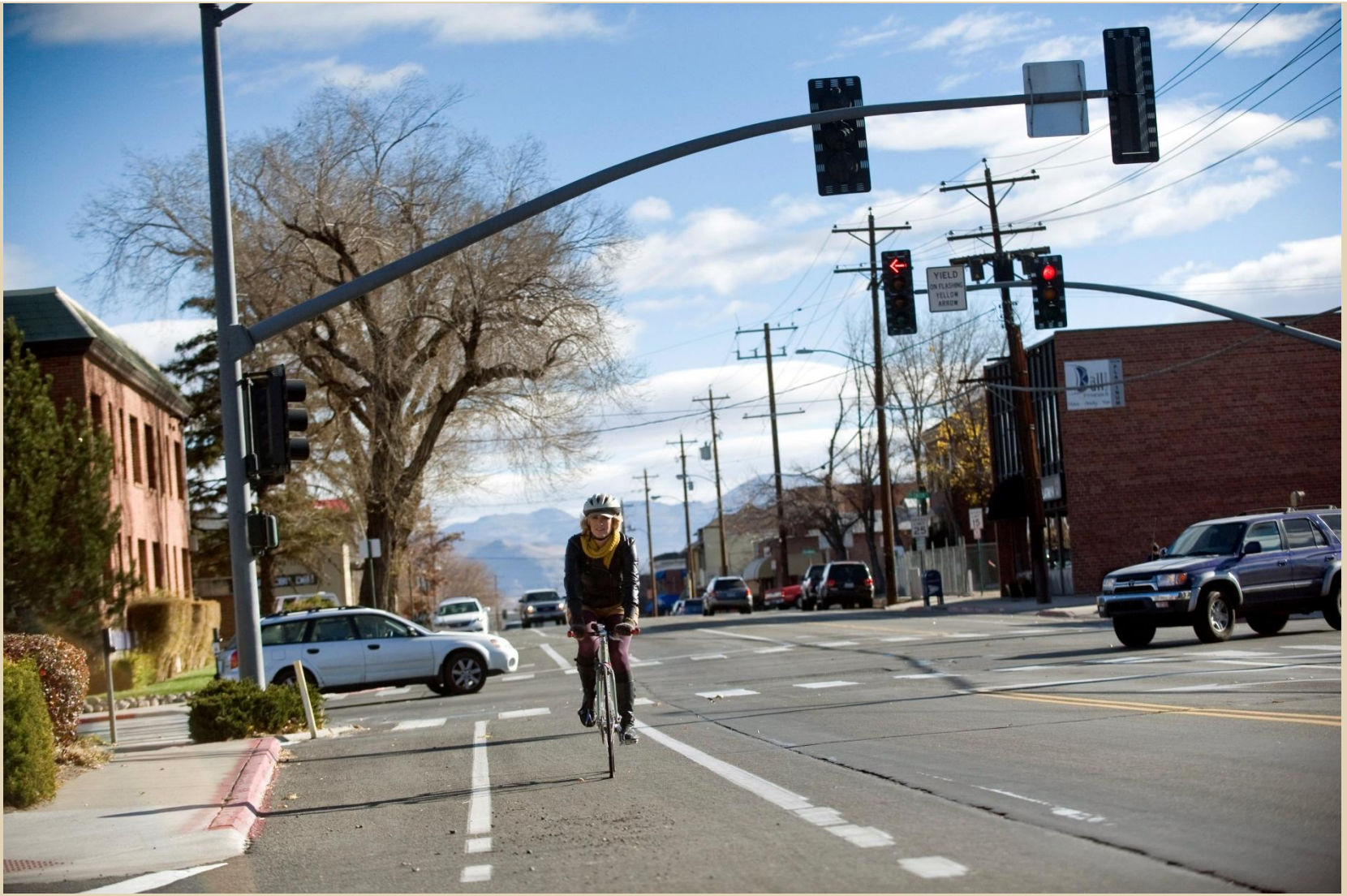
- **Growing bicycle & pedestrian activity**
- **Proven safety benefits**

Location	% Reduction in Crashes
Wells Avenue	31%
California/Mayberry	42%
Arlington Avenue	46%
Mill Street	43%
Sutro Street	38%
Plumas Street	41%
Sierra Street	31%
Victorian Avenue	35%

Wells Avenue



California Avenue



Mayberry Drive



Sutro Street



West Plumb Lane



Plumas Street



Keystone Avenue



Harvard Way



Victorian Avenue



Moana Lane



Southeast McCarran



SouthEast Connector



Public Outreach Summary

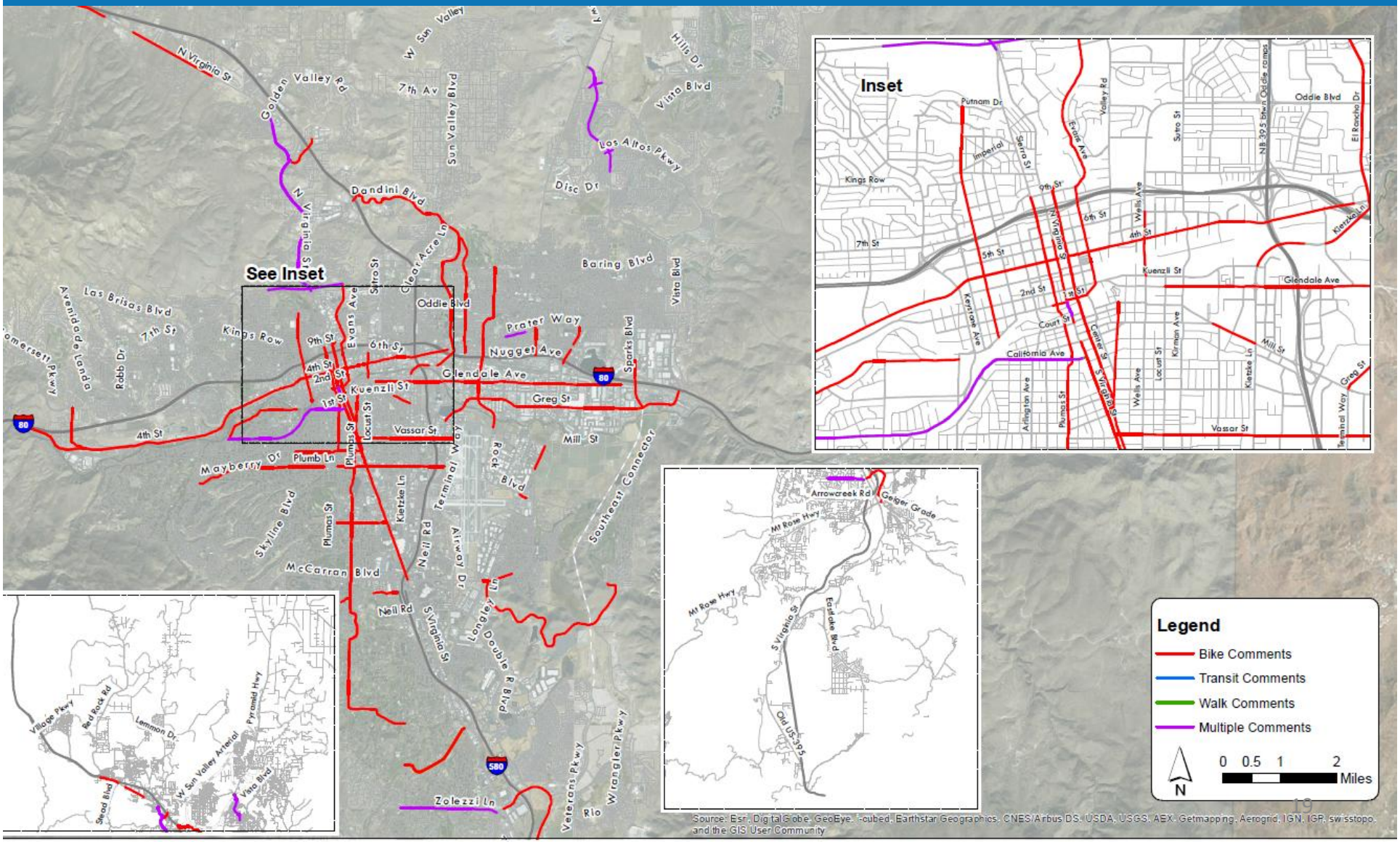
- Public Meetings:
  - September 29 (Sparks)
  - October 13 (Reno)

  (130 public comments received)
  - **February 17 (Dilworth Middle School, Sparks)**
  - February 23 (The Discovery Museum, Reno)





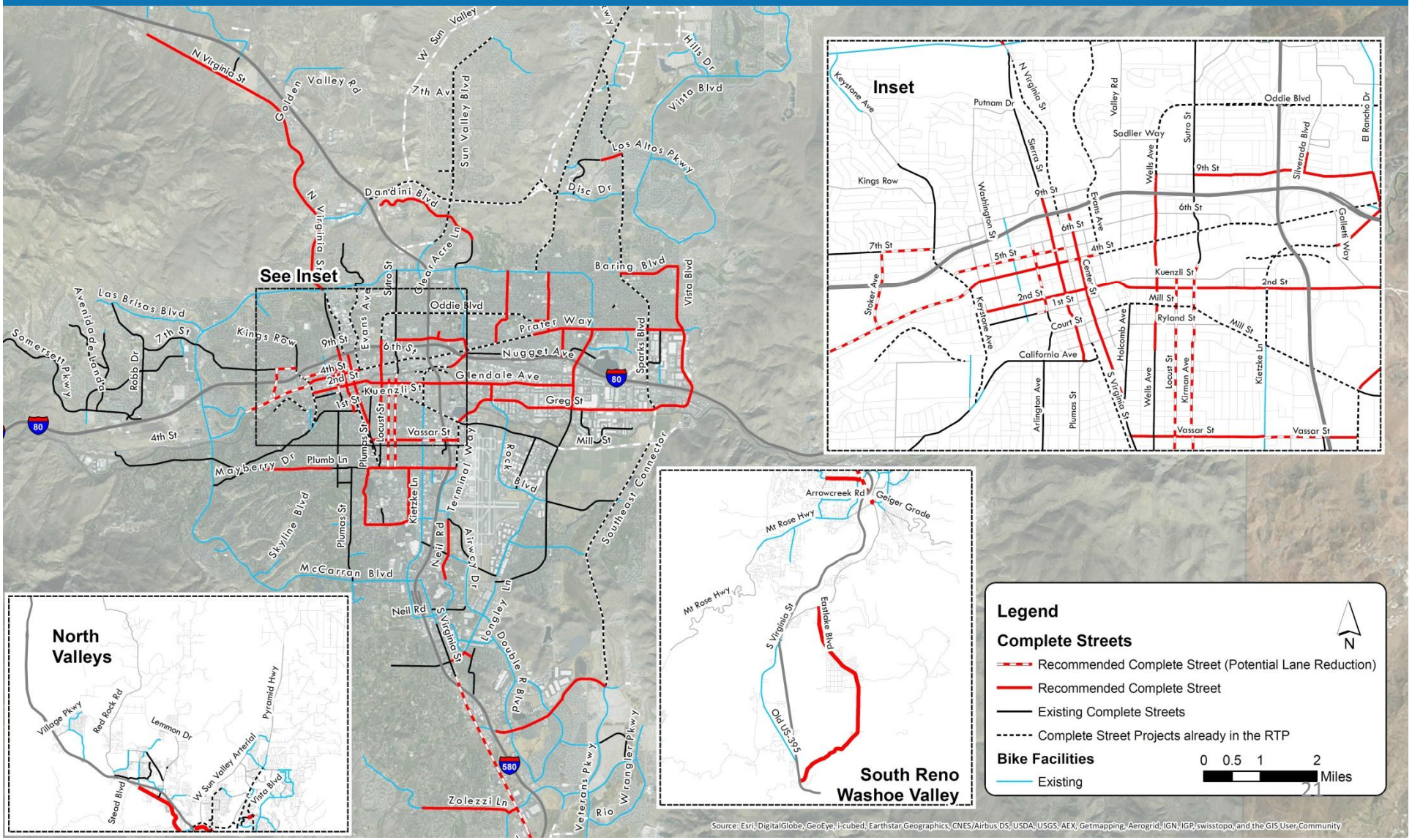
Public Outreach Summary



Connecting Corridors

- Identifying corridors for regional safety & mobility
- Complete Streets Corridors to be included in 2040 Regional Transportation Plan
- Spot improvements to be included in Bicycle-Pedestrian Master Plan (currently under development)
  - Annual RTC funding is in place for spot ADA/bike/ped improvements

Map of Recommendations



Complete Streets Projects Currently in Development

Evans Ave Bike Path/Lane



Virginia Street RAPID Extension Project



4th Street/Prater Way BRT Project



Complete Streets Projects Currently in Development

Pyramid/McCarran Intersection &
Pyramid-US 395 Connector



SouthEast Connector



Complete Streets Projects Currently in Development

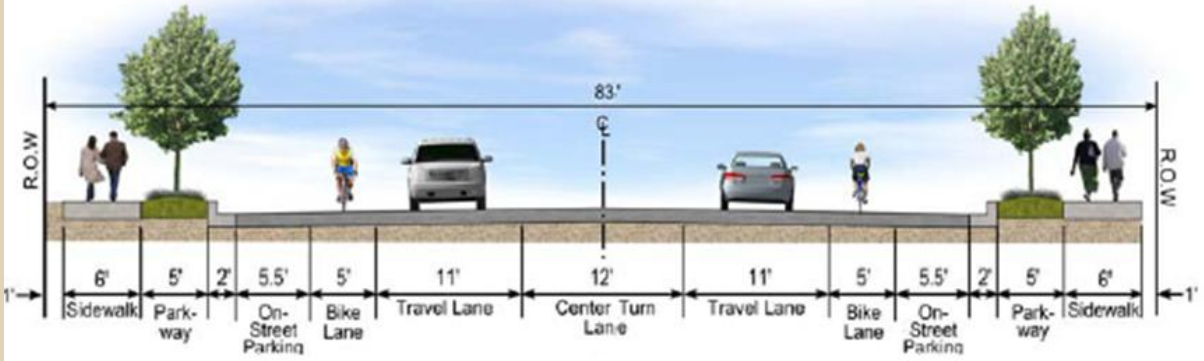
Oddie Blvd/Wells Ave



Keystone & California Intersection



Mill Street



Sparks Blvd



South Virginia Street



North Virginia Street



Glendale Ave/2nd Street



Greg Street



West 4th Street



Zolezzi Lane



Community Input (Workshop)

- Now we want to hear from you!
- Tables around the room have more detailed maps of the draft recommendations



COMPLETE STREETS MASTER PLAN

RTC

Kimley»Horn

Subject: Complete Streets Master Plan Public Meeting

Date/Time: Wednesday, February 17, 2015/5:00 PM

SIGN-IN-SHEET

	NAME	ADDRESS	EMAIL
1.	Devin Moore	3105 Fairwood Dr, Reno, NV 89502	devinvmoore@gmail.com
2.	Gwendolyn A. Lomas	3795 Alma Ave Reno NV 89512	gwendolyn.lomas@AFF.hq
3.	Board Member	320 S ST SPARKS 89431	
4.	RUDY MALFABON	1263 S. Stewart St. (NDOT), Carson City NV	rmalfabon@dot.state.nv.us
5.	Glee Willis	706 Diogenes Dr. Reno 89512	gleewillis@yahoo.com
6.	Karen Melby	City of Sparks Planning	kmelby2@cityofsparks.us
7.	Liz Grindlay AFF	1581 Alermo Dr Sparks 89434	lmadiwan200@gmail.com
8.	Scott Carey	1381 Coupler Court Sparks, NV 89434	shcarey@sbcglobal.net
9.	DAVID TICKNOR	RTC	
10.	DANIEL INOUYE	WASHOE COUNTY HEALTH - AQMD 1001 E. 9TH, RENO, 89512	dinouye@washoecounty.us
11.	Molly O'Brien	2169 Castle Rock Drive Reno 89523	molly.obrien@kimley-horn.com
12.	Janelle Thomas	310 Galletti Way Sparks NV 89431	jthomas2@dot.state.nv.us
13.	MS CLOUD	425 EAST 9TH RENO NV 89520	mcloud@washoeschools.net
14.			
15.			
16.			
17.			

COMPLETE STREETS MASTER PLAN

RTC

Kimley»Horn

Subject: Complete Streets Master Plan Public Meeting

Date/Time: Tuesday, February 23, 2015/5:00 PM

SIGN-IN-SHEET

	NAME	ADDRESS	EMAIL
1.	*Devin Moore*	*3105 Fairwood Dr, Reno, NV 89502*	*devinvmoore@gmail.com*
2.	YANN LING-BARNES	1001 E. 9th St., Ste B171, RENO NV 89502	ylbarnes@washoecounty.us
3.	DAVID PRITCHETT	89501	CAREXPRITCH@AOL.COM
4.	STEVE Buelna	1101 TERMINAL RENO NV	N/A
5.	Scott Gibson	575 Ridge St. Reno 89501	sgibson@rtcwashoe.com
6.	Molly O'Brien	2169 Castle Rock Drive, Reno 89523	molly.obrien@kimley-horn.com
7.	Janelle Thomas	310 Galletti Way ~~Rea~~ Sparks 89431	jthomas2@dot.state.nv.us
8.	GREG EVANGELATOS	1365 HILLTOP RD, RENO, NV. 89509	ggevangelatos@hotmail.com
9.	Julie Hunter	1001 E 9th St B171 Reno NV 89512	jdhunter@washoecounty.us
10.	MARK NICHOLS	1135 MOUNT ROSE ST. RENO NV 89509	mnichols@unr.edu
11.	Marlowe Kulley	2365 Audubon Way 89509	Marlowe.Kulley@gmail.com
12.	Christine Anderson	1125 Jonada Place Reno NV 89509	clajeepe@yahoo.com
13.	Ad TenBrink	1865 Elwick Rd. 89503	renokayaker@gmail
14.	Isabel dela Vega-Gibson		
15.	Jenny Brillhart		
16.	STEVE BUNNELL		BUNNELLS@RENO.GOV
17.	Ed Park	RTC	epark@rtcwashoe.com

COMPLETE STREETS MASTER PLAN

RTC

Kimley»Horn

Subject: Complete Streets Master Plan Public Meeting

Date/Time: Tuesday, February 23, 2015/5:00 PM

SIGN-IN-SHEET

	NAME	ADDRESS	EMAIL
18.	RANDY COLLINS	6680 LEGEND VISTA RENO 89511	COLLINS@775.NET
19.	Daly Costanza	986 Ridgeview Drive Reno 89511	dalycostanza@icloud.com
20.	Andrew Samuelsen	225 Moran St 89501	andrew.samuelsen@gmail.com
21.	Nathan Spindl	609 IMPERIAL BLVD 89503	NATHANS@GMAIL.COM
22.	BRIANNA WOLF	" " "	~~BWolfe~~ WOLFB@RENO.GOV
23.	Kell. Coatley-Seals	8206S Del Rio Ln; Reno 89509	Kseals@washoecounty.us
24.			
25.			
26.			
27.			
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31.			
32.			
33.			

Complete Streets Master Plan: Public Open House Meeting Sparks — February 17, 2016					
No.	**Source**	**Date**	**Map Quadrant/ Contact Info**	**Comment**	**Response/Comment**
1	Comment Card	02/17/2016	None	Bringing the community together has been an obvious goal of the RTC and their Master Plan. Keep up the good work!	So noted.
2	Comment Card	02/17/2016	None	In front of Dilworth on Prater Way trying to turn onto Prater is terrible cars turning the wrong way when pulling out of the school parking lot. Close the Prater Exist and divert the exit traffic on to the side street.	Spot improvements/site mitigation are not within the scope of this project. This recommendation will be forwarded to the City of Sparks for consideration.
3	Comment Card	02/17/2016	None	You should look at I Street in Sparks at the end of Oddie to Prater for a complete street. Good east-west connector that gets people off Prater.	I street is not a regional road and is outside of the scope of this project. This recommendation will be forwarded to the City of Sparks for consideration.
4	Comment Card	02/17/2016	Karen Mellay (775) 353-7878, kmellay@cityofsparks.us	Complete I Street from 4th Street to Prater Way – nice connection with Oddie Blvd. Also complete Victorian Ave. Connect Lincoln Way to Lillard.	I street is not a regional road and is outside of the scope of this project. This recommendation will be forwarded to the City of Sparks for consideration. Recommendation added to fill in gap of complete streets improvements from 16th Street to Pyramid Way According to the RTC Database, Lincoln Way from Sparks Boulevard to Lillard is an existing Complete Street.
5	Comment Card	02/17/2016	None	Thank you for holding this event. Please publicize them better for a better turnout. This is important stuff!!	So noted.
6	Comment Card	02/17/2016	Gwendolyn A. Lomas	I think more flashing lights need to place around Sutro and night needs, the Senior Building and facility around the area. The school needs more wider sidewalk for wheelchairs and motorized chairs because they are too narrow in some places. More better lighting around care chest area at the bus stops.	Spot improvements are not within the scope of this project. These recommendations will be forwarded to the City of Reno for consideration.

Complete Streets Master Plan: Public Open House Meeting Sparks — February 17, 2016					
No.	**Source**	**Date**	**Map Quadrant/ Contact Info**	**Comment**	**Response/Comment**
7	Map	02/17/2016	Northeast Quadrant	Bike Lanes? (along Wedekind)	The Complete Streets Master Plan prioritized facilities for complete streets projects to provide east/west and north/south connectivity. As east/west connections are provided by Oddie and McCarran and north/south connections on Rock and 4th Street. Wedekind was not included as a prioritized recommendation.
8	Map	02/17/2016	Northeast Quadrant	Kids Walk (along Baring) Why no complete street here?	Baring Boulevard was added to the recommendations west of Sparks Boulevard.
9	Map	02/17/2016	Northeast Quadrant	Doesn't connect to anything!	So noted.
10	Map	02/17/2016	Northeast Quadrant	Complete to make connection (along Lincoln Way to Sparks Boulevard)	This section scored low for complete street need and currently provides enhanced sidewalks.
11	Map	02/17/2016	Northeast Quadrant	Complete (connection on Victorian)	Recommendation added to fill in gap of complete streets improvements from 16th Street to Pyramid Way.
12	Map	02/17/2016	Northeast Quadrant	Impossible for peds/bikes (on Rock Blvd)	Complete Street recommendation provided north of Prater on Rock and south of Glendale.
13	Map	02/17/2016	Northeast Quadrant	Invite tow truck drivers to get their input	Public meeting invitations are provided to the public and all are invited to attend.
14	Map	02/17/2016	Northwest Quadrant	We need more light and sidewalk… more light and stalls at Care Chest area.	Spot improvements/site mitigation are not within the scope of this project. This recommendation will be forwarded to the City of Reno for consideration.
15	Map	02/17/2016	Southeast Quadrant	Build Bridge	Spot improvements/site mitigation are not within the scope of this project. This recommendation will be forwarded to the City of Reno for consideration.
16	Map	02/17/2016	Southeast Quadrant	Crosswalk lighting needed.	Spot improvements/site mitigation are not within the scope of this project. This recommendation will be forwarded to the City of Reno for consideration.

All comments were addressed by: DVM

End of Comments from Sparks Public Meeting (2/17/2016)

Complete Streets Master Plan: Public Open House Meeting Reno — February 23, 2016					
No.	**Source**	**Date**	**Map Quadrant/ Contact Info**	**Comment**	**Response/Comment**
17	Map	02/23/2016	Southwest Quadrant	Add Skyline Connection	Recommendation added.
18	Map	02/23/2016	Southwest Quadrant	Traffic Circle w/ crosswalks to eliminate conflict points	Spot improvements/site mitigation are not within the scope of this project. This recommendation will be forwarded to the City of Reno for consideration.
19	Map	02/23/2016	Southwest Quadrant	Bike Lane? (Missing portion along Longley Lane)	Recommendation added.
20	Map	02/23/2016	Southwest Quadrant	Bike Facilities? (McCarran between Virginia and Longley)	RTC requested that McCarran be removed from the analysis. Comment will be forwarded to the RTC.
21	Map	02/23/2016	Southwest Quadrant	Really could use bike lanes or protected one like Victorian!! (Lakeside between Ridgeview and Moana)	Recommendation Added from Moana to McCarran.
22	Map	02/23/2016	Southwest Quadrant	Current bike lanes people park in them.	Enforcement is not within the scope of this project. This comment will be forwarded to the City of Reno for consideration.
23	Map	02/23/2016	Southwest Quadrant	Make ped path open to bikes (along Truckee River)	Bicycles are permitted on this facility.
24	Map	02/23/2016	Southwest Quadrant	Bike/ped bridge across River at Oxbow	Spot improvements are not within the scope of this project. This recommendation will be forwarded to the City of Reno for consideration.
25	Map	02/23/2016	Southwest Quadrant	Add Dickerson (along 2nd St)	The scope of this project includes only Regional Roadways within the modeling network. This comment will be forwarded to the RTC for consideration.
26	Map	02/23/2016	Southwest Quadrant	East-West connection to UNR and beyond	9th Street and 7th Street are recommended Complete Streets in the plan.
27	Map	02/23/2016	Southwest Quadrant	Sharrows	The scope of this project includes only Regional Roadways within the modeling network. This comment will be forwarded to the RTC for consideration.
28	Map	02/23/2016	Northwest Quadrant	Please look at a protected bike lane (cycle track) between UNR and thru downtown and to Midtown. This would be a great asset for students and visitors and residents.	The Complete Streets Master Plan identifies corridors for enhancements, not specific treatments. Individual corridor analyses will determine appropriate treatments at that time.
29	Map	02/23/2016	Northwest Quadrant	Crossing lighting night (Stead Blvd)	Spot improvements are not within the scope of this project. This recommendation will be forwarded to the City of Reno for consideration.

Complete Streets Master Plan: Public Open House Meeting Reno — February 23, 2016					
No.	**Source**	**Date**	**Map Quadrant/ Contact Info**	**Comment**	**Response/Comment**
30	Map	02/23/2016	Northwest Quadrant	Add bike facilities on Golden from N. Virginia. Many cyclists use this for a route to Spanish Springs.	Recommendation added.
31	Map	02/23/2016	Northwest Quadrant	Add signs showing connections to bike lanes.	Spot improvements are not within the scope of this project. This recommendation will be forwarded to the City of Reno for consideration.
32	Map	02/23/2016	Northwest Quadrant	Please add southbound connector for S. Virginia street area (ex: Forest)	Forest Street was added to the Complete Streets Master Plan at the direction of the RTC even though it is not a regional roadway.
33	Map	02/23/2016	Northwest Quadrant	Throughout, lots green lanes for bike route wayfinding, not just scattered signage (ex: Keystone to Washington St)	The scope of this project includes only Regional Roadways within the modeling network for complete street consideration. This comment will be forwarded to the RTC for consideration.
34	Map	02/23/2016	Northwest Quadrant	Eliminate Left Turn Lane and add bike lanes and sidewalks (Virginia between McCarran and Parr Blvd)	A Complete Street is recommended along North Virginia Street. A future Corridor analysis will determine the appropriate complete streets treatments for the corridor.
35	Map	02/23/2016	Northwest Quadrant	Bike Lanes? (Valley Road and Sadlier Way)	Recommendation added.
36	Map	02/23/2016	Northwest Quadrant	Sharrows (Kings Row)	A Complete Street is recommended along Kings Row. A future Corridor analysis will determine the appropriate complete streets treatments for the corridor.
37	Map	02/23/2016	Northwest Quadrant	Connect to Rancho (Washington St)	Recommendation added.
38*	Map	02/23/2016	Northwest Quadrant	Gear St Bike Blvd	The scope of this project includes only Regional Roadways within the modeling network. This comment will be forwarded to the RTC for consideration.
39	Map	02/23/2016	Northwest Quadrant	11th Bike BW	The scope of this project includes only Regional Roadways within the modeling network. This comment will be forwarded to the RTC for consideration.
40	Map	02/23/2016	Northwest Quadrant	Rancho Connect	The scope of this project includes only Regional Roadways within the modeling network. This comment will be forwarded to the RTC for consideration.
41	Map	02/23/2016	Northwest Quadrant	Forest	Forest Street was added to the Complete Streets Master Plan at the direction of the RTC even though it is not a regional roadway.

Complete Streets Master Plan: Public Open House Meeting Reno — February 23, 2016					
No.	**Source**	**Date**	**Map Quadrant/ Contact Info**	**Comment**	**Response/Comment**
42	Map	02/23/2016	Northwest Quadrant	Take excess road capacity and create parking protected/physically separated route from UNR to Midtown. This will be catalyst for more people riding in Reno.	Complete Streets are recommended on Sierra and Center Street. The Complete Streets Master Plan identifies corridors for enhancements, not specific treatments. Individual corridor analyses will determine appropriate treatments at that time.
43	Map	02/23/2016	Northwest Quadrant	Install a complete street along the south side of the Truckee River.	The scope of this project includes only Regional Roadways within the modeling network. This comment will be forwarded to the RTC for consideration.
44	Map	02/23/2016	Downtown Reno	Forest as Southbound Bikeway	Forest Street was added to the Complete Streets Master Plan at the direction of the RTC even though it is not a regional roadway.
45	Map	02/23/2016	Downtown Reno	Connect to Dickerson	The scope of this project includes only Regional Roadways within the modeling network. This comment will be forwarded to the RTC for consideration.
46	Map	02/23/2016	Downtown Reno	Double check bike lane (California Ave)	California was a 4 to 3-lane conversion and bike lanes were installed where feasible.
47	Map	02/23/2016	Downtown Reno	Already informal bike access to Rancho trails -> Sharrows?	Complete Street is recommended on Washington Street and will be further analyzed to determine appropriate complete streets treatments.
48	Map	02/23/2016	Downtown Reno	11th would be a good Bike Blvd.	The scope of this project includes only Regional Roadways within the modeling network. This comment will be forwarded to the RTC for consideration.
49	Map	02/23/2016	Downtown Reno	Sharrows (Ralston St)	The scope of this project includes only Regional Roadways within the modeling network. This comment will be forwarded to the RTC for consideration.
50	Map	02/23/2016	Downtown Reno	Please consider wayfinding signage to let cyclists find the safest routes. Many students in this area – better, well marked routes to campus would be welcome.	The scope of this project includes only Regional Roadways within the modeling network. This comment will be forwarded to the RTC for consideration.
51	Map	02/23/2016	Downtown Reno	University still disconnected from downtown.	Master Plan includes complete streets along Evans, Virginia, Sierra and Center Street to provide connectivity between UNR and downtown.

Complete Streets Master Plan: Public Open House Meeting Reno — February 23, 2016					
No.	**Source**	**Date**	**Map Quadrant/ Contact Info**	**Comment**	**Response/Comment**
52	Map	02/23/2016	Downtown Reno	Cycle track to better connect University with Midtown?	Complete Streets are recommended on Sierra and Center Street and will be further analyzed to determine appropriate complete streets treatments.
53	Map	02/23/2016	Downtown Reno	Lighted crosswalk (4th St)	Spot improvements are not within the scope of this project. This recommendation will be forwarded to the City of Reno for consideration.
54	Map	02/23/2016	Downtown Reno	More street lighting (4th St)	Spot improvements are not within the scope of this project. This recommendation will be forwarded to the City of Reno for consideration.
55	Map	02/23/2016	Downtown Reno	4th Street – add protected bike lanes/connect excess driving capacity to bike lanes.	A Complete Street is recommended along 4th Street. A future Corridor analysis will determine the appropriate complete streets treatments for the corridor.
56	Comment Card	02/23/2016	None	Minimum grid of protected bike lanes, with the goal of significantly increasing bike ridership.	Specific complete street treatments for the roadways identified in the Master Plan are outside of the scope of this project. Corridor analyses will be required to determine the appropriate complete streets treatments for each corridor.

Complete Streets Master Plan: Public Open House Meeting Reno — February 23, 2016					
No.	**Source**	**Date**	**Map Quadrant/ Contact Info**	**Comment**	**Response/Comment**
57	Comment Card	02/23/2016	Jenny Brekhus	Plan needs to discuss relinquishments. Will not get complete street for streets on highway (NDOT System) Need to address solidify policy/mechanics to maintain landscaping within ROW. RTC and Plan ignores 75%80% of streets in network using <ADT 5000+ threshold Adding a bike lane is not a complete street make TWLTL are old engineering thinking no more of these except in unusual circumstances. Better access management Some of these project if not all, need to examined in an area plan that takes into account lane use [existing/proposed]. Should be done in concert with that type of planning. How can we improve safety if 75%80% of network not being addressed? Ridiculous! RTC must create a local street maintenance and complete street funding set aside to achieve a complete street network	The scope of this project includes only Regional Roadways within the modeling network. These comments will be forwarded to the RTC for consideration.
58	Comment Card	02/23/2016	Andy TenBrink	Please check in on the Master Cycling Plan. In some respect this could be a good base for where we need complete streets. Also, I know complete streets is a “variable” term but lets keep real bicycle lanes on them when possible! Thanks.	So noted.

Complete Streets Master Plan: Public Open House Meeting Reno — February 23, 2016					
No.	**Source**	**Date**	**Map Quadrant/ Contact Info**	**Comment**	**Response/Comment**
59	Comment Card	02/23/2016	Marlowe Kulley, (775) 525-0211, marlowe.kulley@gmail.com	Thank you for looking at sidewalk and bike lane connectivity to ensure people can access all parts of town. One major gap in current plan is a southbound bike lane near S. Virginia-Forrest is a good option. I would strongly recommend that you not only look at adding bike lanes to arterials, but if that is not possible (ex: on Vassar St) please look at creating Bike Blvds on low volume side streets. By prioritizing bike thru traffic on these blvds, (with traffic diverters, minimal stop signs, bike signals, etc) you could create a very safe bike connector without competing with cars for space on higher traffic roads.	Forest Street was added to the Complete Streets Master Plan at the direction of the RTC even though it is not a regional roadway. The scope of this project includes only Regional Roadways within the modeling network. This comment will be forwarded to the RTC for consideration.
60	Map	02/23/2016	Northeast Quadrant	? (Los Altos Pkwy) Fill in Gap	Recommendation added.
61	Map	02/23/2016	Northeast Quadrant	Bike Lane? (Disc Drive)	Recommendation added.
62	Map	02/23/2016	Northeast Quadrant	Wedekind Bike Lane. Agreed!! More lightings as well	The Complete Streets Master Plan prioritized facilities for complete streets projects to provide east/west and north/south connectivity. As east/west connections are provided by Oddie and McCarran and north/south connections on Rock and 4th Street. Wedekind was not included as a prioritized recommendation.
63	Map	02/23/2016	Northeast Quadrant	9th Street, I agree! but here also (west of Sutro to Wells	Recommendation added.
64	Map	02/23/2016	Northeast Quadrant	Bike Lane? (Vista Blvd)	Recommendation added.
65	Map	02/23/2016	Northeast Quadrant	I ride this area regularly (Victorian). The streets are very wide and the speed limit is very low – so all it really needs is either striping or a designation as a bike blvd.	Recommendation added to fill in gap of complete streets improvements from 16th Street to Pyramid Way.
66	Map	02/23/2016	Northeast Quadrant	Take the turnaround out because of the semis that get caught on it or put lighted signage to prevent.	Spot improvements are not within the scope of this project. This recommendation will be forwarded to the City of Sparks for consideration.
67	Map	02/23/2016	Northeast Quadrant	Complete to make a connection (Lincoln Way)	See Comment #68.

Complete Streets Master Plan: Public Open House Meeting Reno — February 23, 2016					
No.	**Source**	**Date**	**Map Quadrant/ Contact Info**	**Comment**	**Response/Comment**
68	Map	02/23/2016	Northeast Quadrant	Some of this section (near the traffic light) does have bike lanes. The roundabouts and other sections are wide and bikeable – so this "gap" is more visual than actual.	So noted.
69	Map	02/23/2016	Northeast Quadrant	Continuous bike lane on some side of street on Sparks Blvd South of Baring Blvd.	Sparks Boulevard is planned within the RTIP for complete street improvements.
70	Map	02/23/2016	Southeast Quadrant	Restripe for bike lanes (along Glendale Ave)	Recommendation included in Complete Streets Master Plan.
71	Map	02/23/2016	Southeast Quadrant	Close this gap (along Longley)	Recommendation added.
72	Map	02/23/2016	Southeast Quadrant	Close the gap (along Airway Dr/Moana Ln)	Existing bike lanes exist in this area, map has been updated.
73	Map	02/23/2016	Southeast Quadrant	Existing? (bike lanes along Virginia)	Yes, these do exist, but only in the southbound direction.
74	Map	02/23/2016	Southeast Quadrant	Build bridge	Spot improvements are not within the scope of this project. This recommendation will be forwarded to the City of Reno for consideration.
75	Map	02/23/2016	Southeast Quadrant	Install traffic circle with crosswalks to eliminate conflict points	Spot improvements are not within the scope of this project. This recommendation will be forwarded to the City of Reno for consideration.
76	Map	02/23/2016	Southeast Quadrant	Add bike lanes (along Lakeside Dr)	Recommendation added from Moana to McCarran.
77	Map	02/23/2016	Southeast Quadrant	"Cycle track" in the park" East of Kirman on Mill Street	Mill Street is planned for complete street improvements within the RTIP and will be analyzed separate from this project. This recommendation will be forwarded to the City of Reno for consideration.
78	Map	02/23/2016	Southeast Quadrant	Any room for bike lanes?	The scope of this project includes only Regional Roadways within the modeling network. This comment will be forwarded to the RTC for consideration.
79	Map	02/23/2016	Southeast Quadrant	Need bike lanes/ped no other crossing between Evans and Sutro on Wells Avenue	Complete Street recommendation included in the Master Plan for this facility.

All comments were address by: DVM

End of Comments from Reno Public Meeting (02/23/2016)

APPENDIX C

INTERSECTION COUNT DATA

Silver State Traffic Data Collection, LLC

1819 Quarley Place
Henderson, Nevada 89014
702-217-1968
sstraffic@msn.com

File Name : Wells-Taylor
Site Code : 00004444
Start Date : 9/22/2015
Page No : 1

Groups Printed- Unshifted

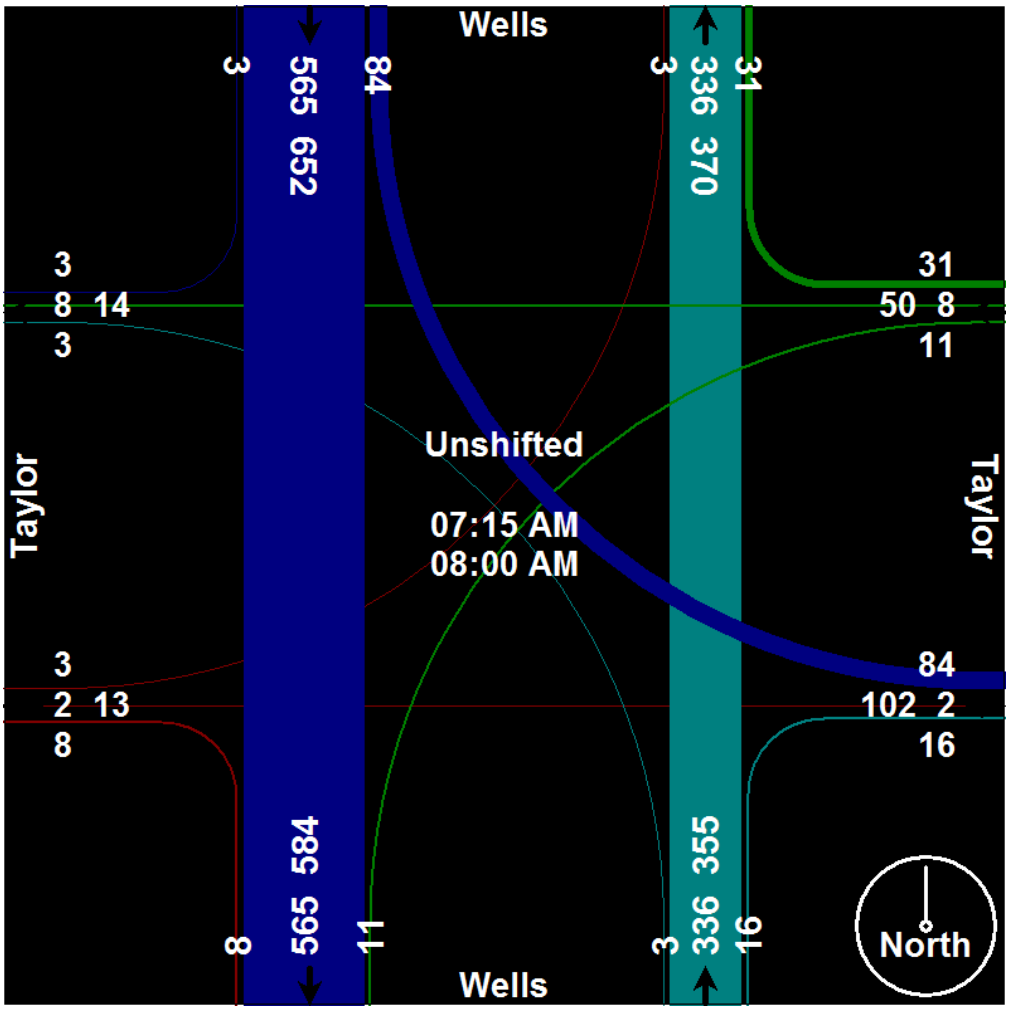
	Wells Southbound				Taylor Westbound				Wells Northbound				Taylor Eastbound				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	1	103	27	0	11	3	2	0	8	66	0	0	1	0	2	0	224
07:15 AM	1	113	27	0	8	2	2	0	5	65	1	0	1	0	0	0	225
07:30 AM	0	149	25	0	4	3	3	0	1	87	1	0	4	1	1	0	279
07:45 AM	1	154	16	0	9	2	4	0	4	96	0	0	1	1	0	0	288
Total	3	519	95	0	32	10	11	0	18	314	2	0	7	2	3	0	1016
08:00 AM	1	149	16	0	10	1	2	0	6	88	1	0	2	0	2	0	278
08:15 AM	1	132	7	0	4	1	2	0	6	65	1	0	1	0	2	0	222
08:30 AM	1	117	6	0	8	2	2	0	7	92	0	0	2	0	3	0	240
08:45 AM	2	131	9	0	11	3	1	0	5	98	0	0	0	3	2	0	265
Total	5	529	38	0	33	7	7	0	24	343	2	0	5	3	9	0	1005
*** BREAK ***																	
04:00 PM	2	137	9	0	28	3	4	0	3	179	3	0	1	0	1	0	370
04:15 PM	2	140	7	0	39	3	6	0	3	187	4	0	1	0	1	0	393
04:30 PM	3	139	9	0	26	8	2	0	3	182	4	0	0	2	1	0	379
04:45 PM	6	143	9	0	13	2	6	0	2	171	2	0	1	0	0	0	355
Total	13	559	34	0	106	16	18	0	11	719	13	0	3	2	3	0	1497
05:00 PM	2	109	15	0	18	0	4	0	3	142	0	0	2	0	0	0	295
05:15 PM	6	126	9	0	11	3	1	0	4	144	1	0	4	0	3	0	312
05:30 PM	3	135	8	0	6	2	1	0	1	152	2	0	7	1	3	0	321
05:45 PM	1	125	6	0	11	1	2	0	0	170	1	0	3	3	0	0	323
Total	12	495	38	0	46	6	8	0	8	608	4	0	16	4	6	0	1251
Grand Total	33	2102	205	0	217	39	44	0	61	1984	21	0	31	11	21	0	4769
Apprch %	1.4	89.8	8.8	0	72.3	13	14.7	0	3	96	1	0	49.2	17.5	33.3	0	
Total %	0.7	44.1	4.3	0	4.6	0.8	0.9	0	1.3	41.6	0.4	0	0.7	0.2	0.4	0	

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Page No : 2

	Wells Southbound					Taylor Westbound					Wells Northbound					Taylor Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	**1**	113	**27**	0	141	8	2	2	0	12	5	65	**1**	0	71	1	0	0	0	1	225
07:30 AM	0	149	25	0	**174**	4	**3**	3	0	10	1	87	1	0	89	**4**	**1**	1	0	**6**	279
07:45 AM	1	**154**	16	0	171	9	2	**4**	0	**15**	4	**96**	0	0	**100**	1	1	0	0	2	**288**
08:00 AM	1	149	16	0	166	**10**	1	2	0	13	**6**	88	1	0	95	2	0	**2**	0	4	278
Total Volume	3	565	84	0	652	31	8	11	0	50	16	336	3	0	355	8	2	3	0	13	1070
% App. Total	0.5	86.7	12.9	0		62	16	22	0		4.5	94.6	0.8	0		61.5	15.4	23.1	0		
PHF	.750	.917	.778	.000	.937	.775	.667	.688	.000	.833	.667	.875	.750	.000	.888	.500	.500	.375	.000	.542	.929

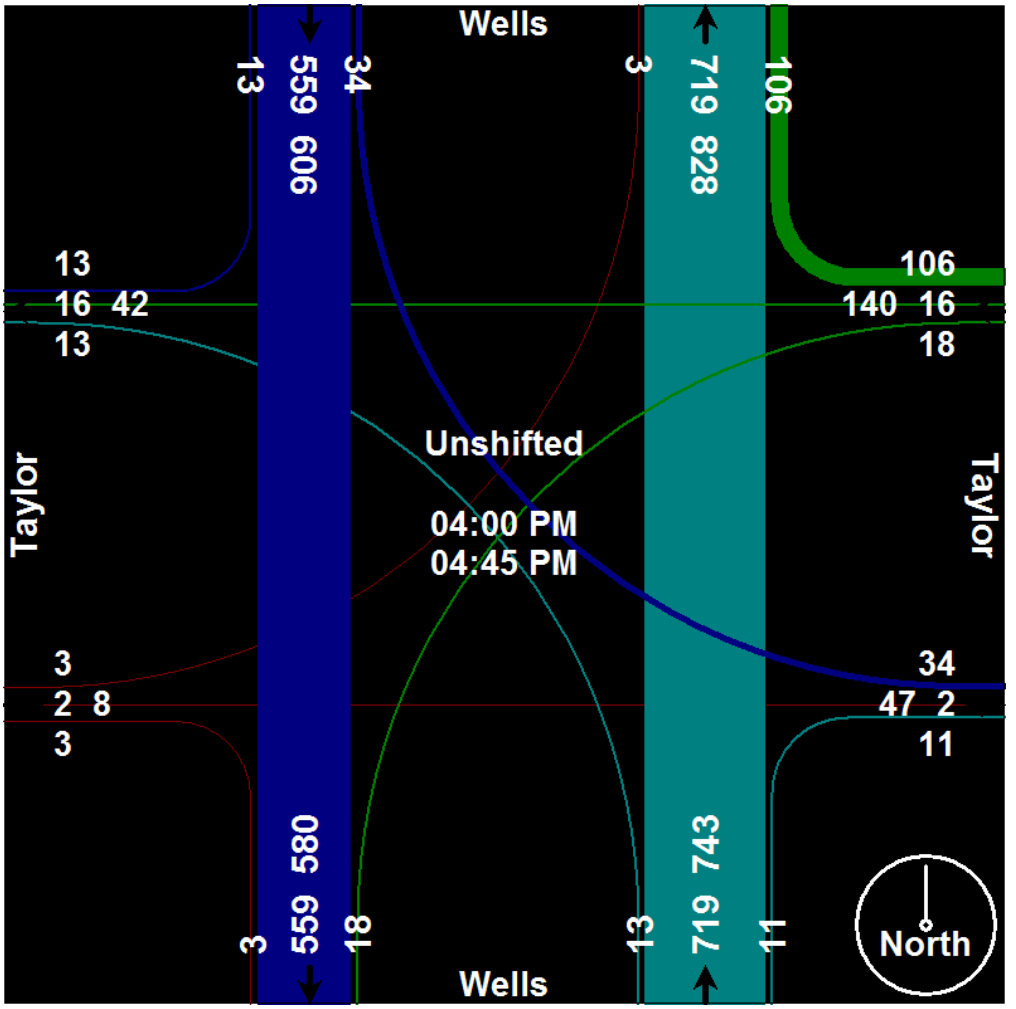


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Page No : 3

	Wells Southbound					Taylor Westbound					Wells Northbound					Taylor Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	2	137	**9**	0	148	28	3	4	0	35	**3**	179	3	0	185	**1**	0	**1**	0	2	370
04:15 PM	2	140	7	0	149	**39**	3	**6**	0	**48**	3	**187**	**4**	0	**194**	1	0	1	0	2	**393**
04:30 PM	3	139	9	0	151	26	**8**	2	0	36	3	182	4	0	189	0	**2**	1	0	**3**	379
04:45 PM	**6**	**143**	9	0	**158**	13	2	6	0	21	2	171	2	0	175	1	0	0	0	1	355
Total Volume	13	559	34	0	606	106	16	18	0	140	11	719	13	0	743	3	2	3	0	8	1497
% App. Total	2.1	92.2	5.6	0		75.7	11.4	12.9	0		1.5	96.8	1.7	0		37.5	25	37.5	0		
PHF	.542	.977	.944	.000	.959	.679	.500	.750	.000	.729	.917	.961	.813	.000	.957	.750	.250	.750	.000	.667	.952



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File Name : Wells-Taylor Bikes
Site Code : 00004444
Start Date : 9/22/2015
Page No : 1

Groups Printed- Unshifted

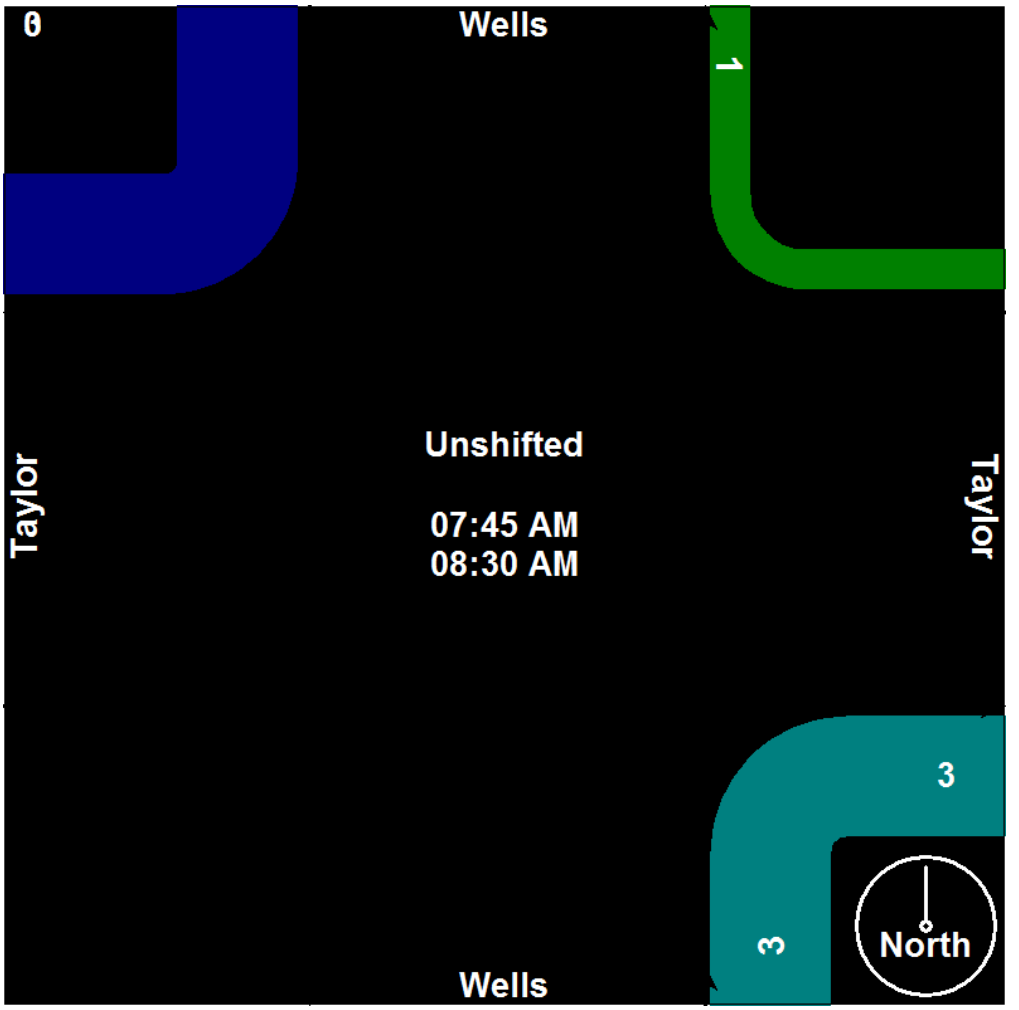
	Wells Southbound				Taylor Westbound				Wells Northbound				Taylor Eastbound				
Start Time	Westside	Thru	Eastside	Peds	Northside	Thru	Southside	Peds	Eastside	Thru	Westside	Peds	Southside	Thru	Northside	Peds	Int. Total
*** BREAK ***																	
07:15 AM	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	2
*** BREAK ***																	
07:45 AM	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2
Total	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	4
08:00 AM	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2
08:15 AM	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	2
08:30 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
Total	2	0	0	0	1	0	0	0	4	0	0	0	0	0	0	0	7
*** BREAK ***																	
04:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
04:15 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
*** BREAK ***																	
Total	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
05:00 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
05:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:45 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	2	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	4
Grand Total	5	0	2	0	1	0	0	0	7	0	2	0	0	0	0	0	17
Apprch %	71.4	0	28.6	0	100	0	0	0	77.8	0	22.2	0	0	0	0	0	
Total %	29.4	0	11.8	0	5.9	0	0	0	41.2	0	11.8	0	0	0	0	0	

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File Name : Wells-Taylor Bikes
Site Code : 00004444
Start Date : 9/22/2015

	Wells Southbound					Taylor Westbound					Wells Northbound					Taylor Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	**1**	0	0	0	**1**	0	0	0	0	0	**1**	0	0	0	**1**	0	0	0	0	0	**2**
08:00 AM	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2
08:15 AM	0	0	0	0	0	**1**	0	0	0	**1**	1	0	0	0	1	0	0	0	0	0	2
08:30 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	3	0	0	0	3	1	0	0	0	1	3	0	0	0	3	0	0	0	0	0	7
% App. Total	100	0	0	0		100	0	0	0		100	0	0	0		0	0	0	0		
PHF	.750	.000	.000	.000	.750	.250	.000	.000	.000	.250	.750	.000	.000	.000	.750	.000	.000	.000	.000	.000	.875

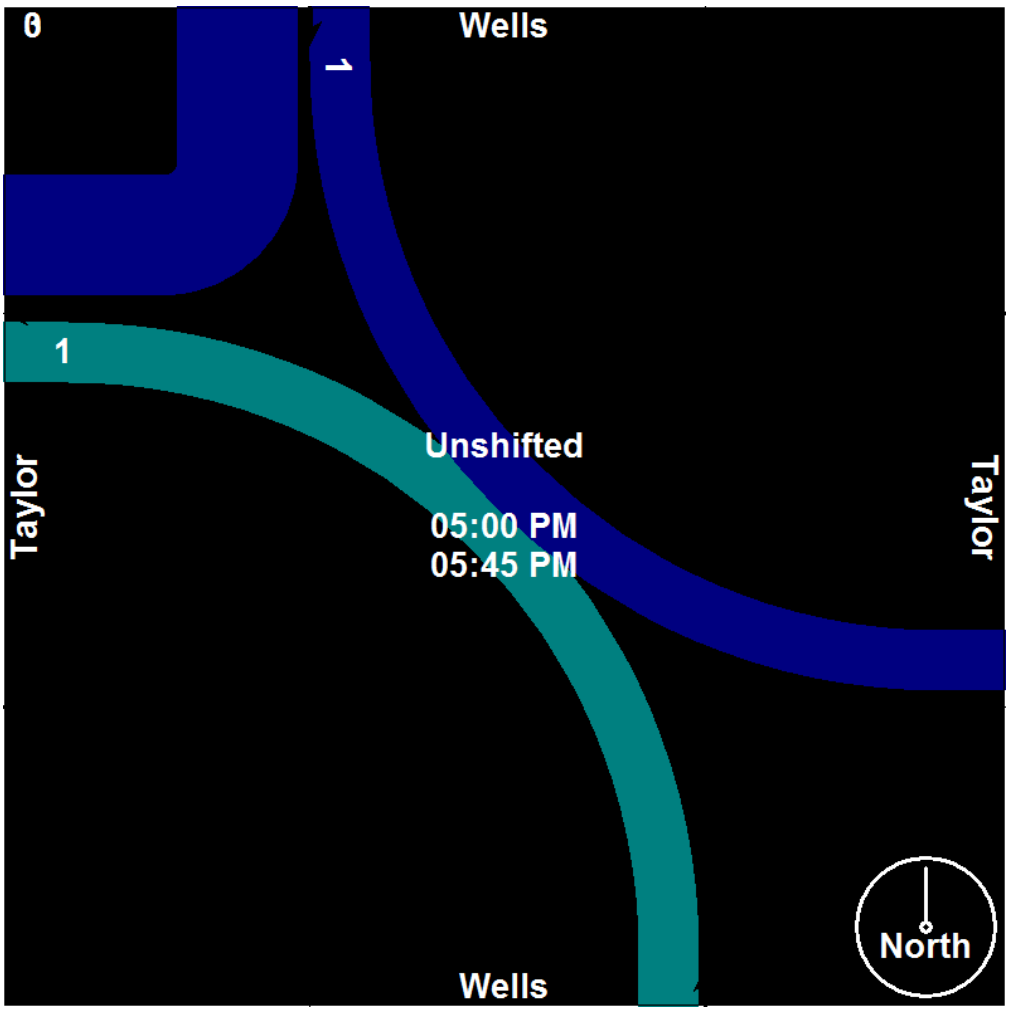


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Page No : 3

	Wells Southbound					Taylor Westbound					Wells Northbound					Taylor Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	**1**	0	0	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	0	0	0	0	1
05:30 PM	0	0	**1**	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:45 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	2	0	1	0	3	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	4
% App. Total	66.7	0	33.3	0		0	0	0	0		0	0	100	0		0	0	0	0		
PHF	.500	.000	.250	.000	.750	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	1.00



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Groups Printed- Unshifted

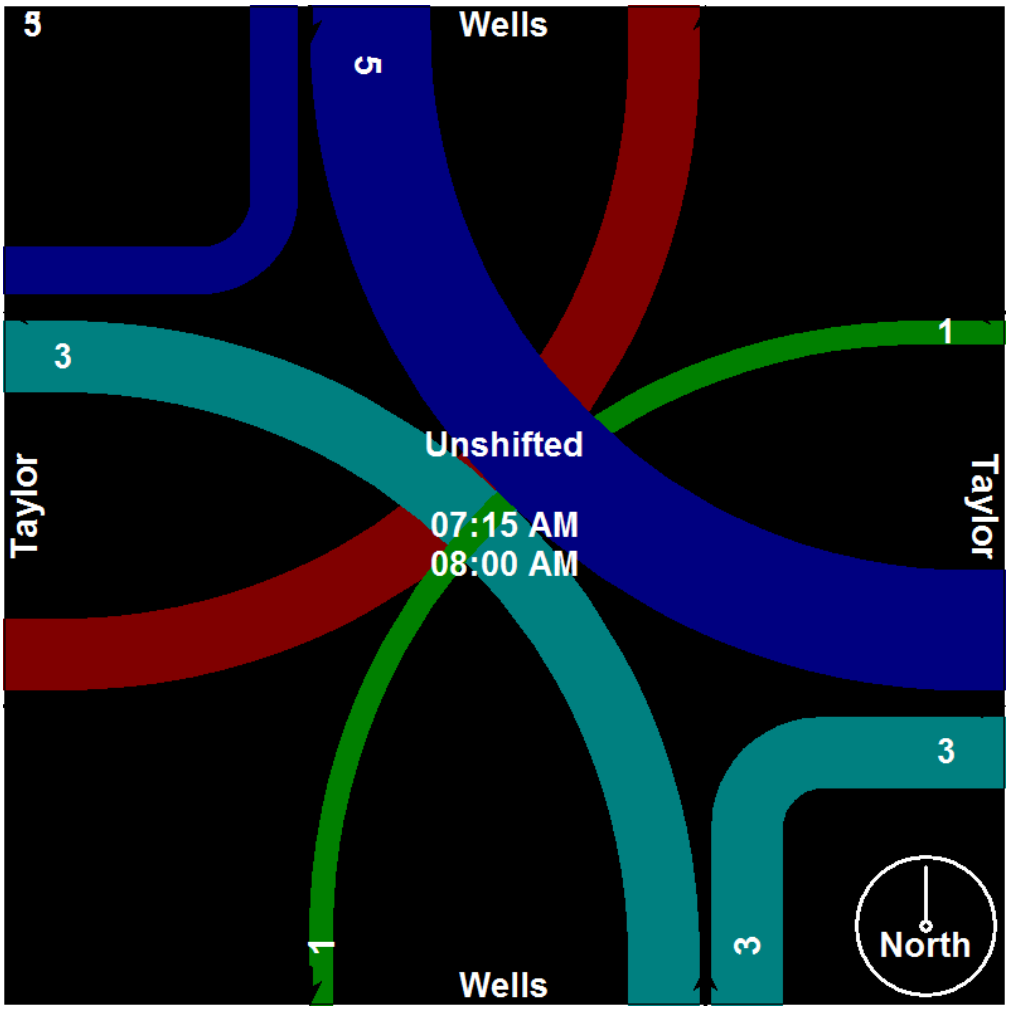
	Wells Southbound				Taylor Westbound				Wells Northbound				Taylor Eastbound				
Start Time	Westside	Thru	Eastside	Peds	Northside	Thru	Southside	Peds	Eastside	Thru	Westside	Peds	Southside	Thru	Northside	Peds	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4
07:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	3
07:30 AM	0	0	1	0	0	0	1	0	2	0	0	0	0	0	0	0	4
07:45 AM	1	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	4
Total	1	0	3	0	0	0	1	0	2	0	2	0	0	0	6	0	15
08:00 AM	1	0	2	0	0	0	0	0	1	0	1	0	0	0	1	0	6
08:15 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
08:30 AM	1	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	4
08:45 AM	0	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	3
Total	2	0	3	0	2	0	0	0	5	0	1	0	0	0	1	0	14
*** BREAK ***																	
04:00 PM	2	0	0	0	0	0	0	0	2	0	1	0	0	0	1	0	6
*** BREAK ***																	
04:30 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Total	3	0	0	0	0	0	0	0	3	0	1	0	0	0	1	0	8
05:00 PM	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	3
05:15 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:30 PM	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	4
05:45 PM	1	0	2	0	0	0	0	0	0	0	3	0	0	0	2	0	8
Total	5	0	2	0	0	0	0	0	0	0	6	0	0	0	3	0	16
Grand Total	11	0	8	0	2	0	1	0	10	0	10	0	0	0	11	0	53
Apprch %	57.9	0	42.1	0	66.7	0	33.3	0	50	0	50	0	0	0	100	0	
Total %	20.8	0	15.1	0	3.8	0	1.9	0	18.9	0	18.9	0	0	0	20.8	0	

Silver State Traffic Data Collection, LLC

1819 Quarley Place
Henderson, Nevada 89014
702-217-1968
sstraffic@msn.com

File Name : Wells-Taylor Peds
Site Code : 00004444
Start Date : 9/22/2015

	Wells Southbound					Taylor Westbound					Wells Northbound					Taylor Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	**2**	0	**2**	3
07:30 AM	0	0	1	0	1	0	0	**1**	0	**1**	**2**	0	0	0	**2**	0	0	0	0	0	4
07:45 AM	**1**	0	1	0	2	0	0	0	0	0	0	0	**2**	0	2	0	0	0	0	0	4
08:00 AM	1	0	**2**	0	**3**	0	0	0	0	0	1	0	1	0	2	0	0	1	0	1	**6**
Total Volume	2	0	5	0	7	0	0	1	0	1	3	0	3	0	6	0	0	3	0	3	17
% App. Total	28.6	0	71.4	0		0	0	100	0		50	0	50	0		0	0	100	0		
PHF	.500	.000	.625	.000	.583	.000	.000	.250	.000	.250	.375	.000	.375	.000	.750	.000	.000	.375	.000	.375	.708

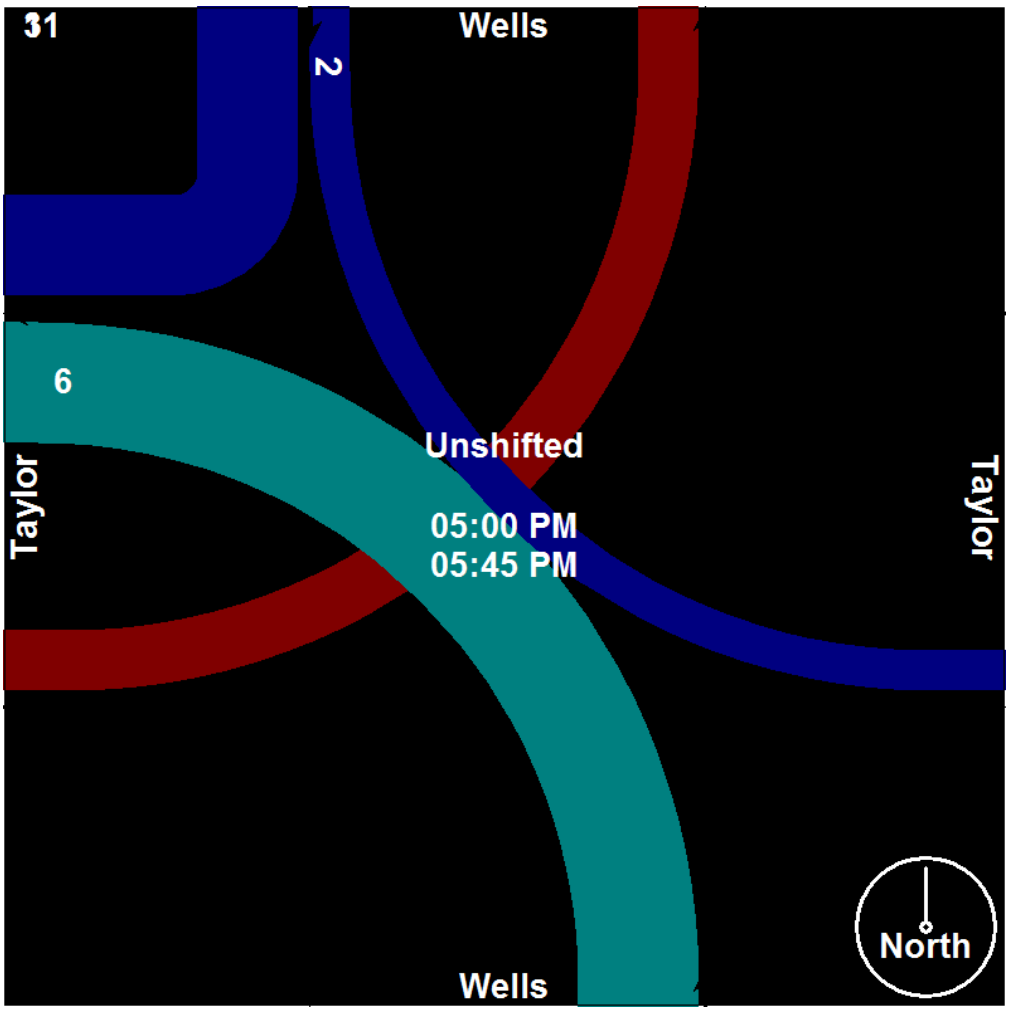


Silver State Traffic Data Collection, LLC

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File Name : Wells-Taylor Peds
Site Code : 00004444
Start Date : 9/22/2015
Page No : 3

	Wells Southbound					Taylor Westbound					Wells Northbound					Taylor Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1	3
05:15 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:30 PM	**2**	0	0	0	2	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	4
05:45 PM	1	0	**2**	0	**3**	0	0	0	0	0	0	0	**3**	0	**3**	0	0	**2**	0	**2**	**8**
Total Volume	5	0	2	0	7	0	0	0	0	0	0	0	6	0	6	0	0	3	0	3	16
% App. Total	71.4	0	28.6	0		0	0	0	0		0	0	100	0		0	0	100	0		
PHF	.625	.000	.250	.000	.583	.000	.000	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.375	.000	.375	.500



Silver State Traffic Data Collection, LLC

1819 Quarley Place
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File Name : Victorian-19th
Site Code : 00004444
Start Date : 9/23/2015
Page No : 1

Groups Printed- Unshifted

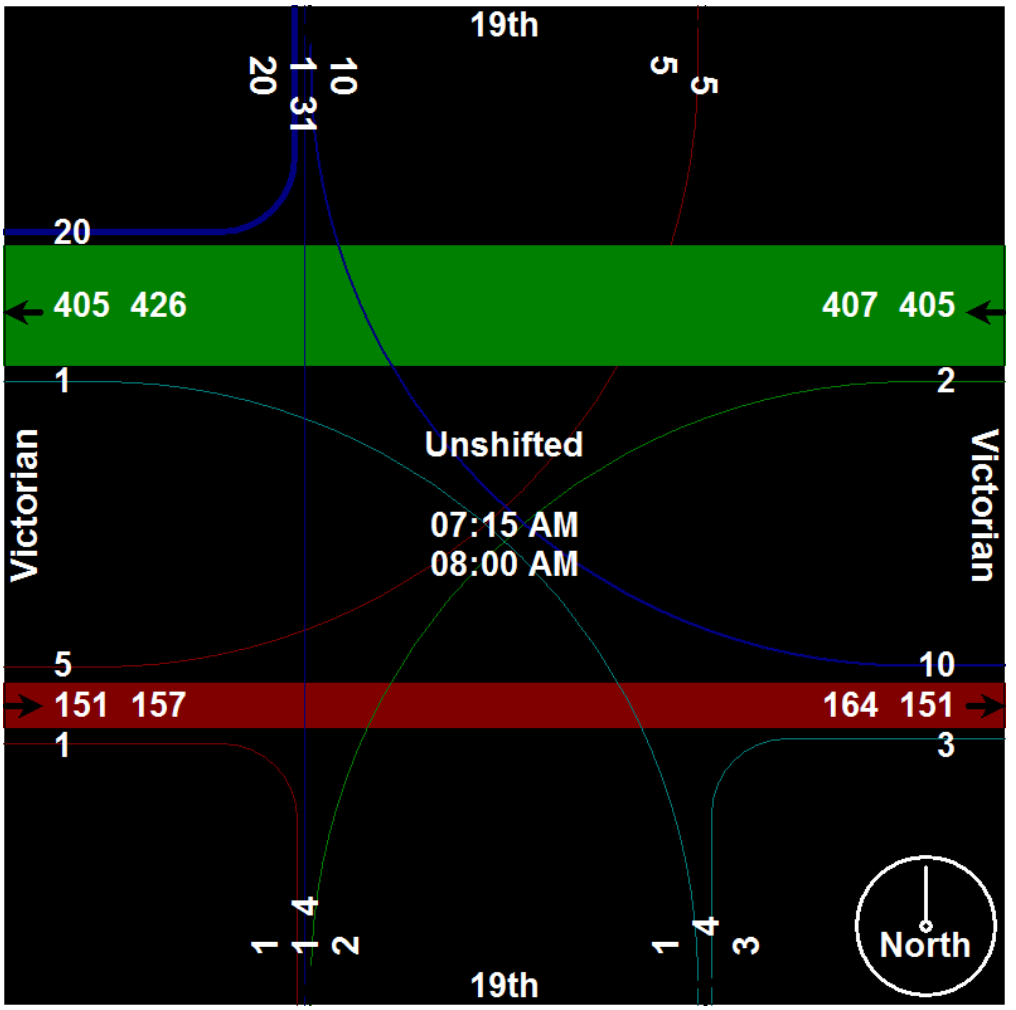
	19th Southbound				Victorian Westbound				19th Northbound				Victorian Eastbound				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	2	0	3	0	0	26	0	0	0	1	0	0	0	43	0	0	75
07:15 AM	5	0	0	0	0	76	0	0	1	0	0	0	1	25	1	0	109
07:30 AM	4	1	3	0	0	111	0	0	1	0	0	0	0	42	0	0	162
07:45 AM	7	0	6	0	0	112	0	0	0	0	1	0	0	42	4	0	172
Total	18	1	12	0	0	325	0	0	2	1	1	0	1	152	5	0	518
08:00 AM	4	0	1	0	0	106	2	0	1	0	0	0	0	42	0	0	156
08:15 AM	4	0	1	0	1	75	0	0	2	0	0	0	0	17	2	0	102
08:30 AM	6	0	2	0	1	40	0	0	0	0	1	0	0	41	0	0	91
08:45 AM	4	0	3	0	0	40	0	0	1	0	0	0	1	35	0	0	84
Total	18	0	7	0	2	261	2	0	4	0	1	0	1	135	2	0	433
*** BREAK ***																	
04:00 PM	6	2	3	0	0	62	0	0	0	1	0	0	0	68	3	0	145
04:15 PM	0	0	2	0	2	45	1	0	0	0	1	0	1	71	1	0	124
04:30 PM	1	0	3	0	1	59	0	0	1	0	0	0	2	62	4	0	133
04:45 PM	3	0	0	0	0	48	1	0	1	1	2	0	0	71	1	0	128
Total	10	2	8	0	3	214	2	0	2	2	3	0	3	272	9	0	530
05:00 PM	4	0	3	0	6	63	0	0	0	0	0	0	2	51	1	0	130
05:15 PM	2	0	3	0	0	41	0	0	2	0	0	0	2	78	2	0	130
05:30 PM	2	0	1	0	2	48	0	0	1	1	0	0	3	60	3	0	121
05:45 PM	1	3	0	0	3	41	1	0	1	0	1	0	1	52	2	0	106
Total	9	3	7	0	11	193	1	0	4	1	1	0	8	241	8	0	487
Grand Total	55	6	34	0	16	993	5	0	12	4	6	0	13	800	24	0	1968
Apprch %	57.9	6.3	35.8	0	1.6	97.9	0.5	0	54.5	18.2	27.3	0	1.6	95.6	2.9	0	
Total %	2.8	0.3	1.7	0	0.8	50.5	0.3	0	0.6	0.2	0.3	0	0.7	40.7	1.2	0	

Silver State Traffic Data Collection, LLC

1819 Quarley Place
Henderson, Nevada 89014
702-217-1968
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File Name : Victorian-19th
Site Code : 00004444
Start Date : 9/23/2015

	19th Southbound					Victorian Westbound					19th Northbound					Victorian Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 12:30 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	5	0	0	0	5	0	76	0	0	76	**1**	0	0	0	**1**	**1**	25	1	0	27	109
07:30 AM	4	**1**	3	0	8	0	111	0	0	111	1	0	0	0	1	0	**42**	0	0	42	162
07:45 AM	**7**	0	**6**	0	**13**	0	**112**	0	0	**112**	0	0	**1**	0	1	0	42	**4**	0	**46**	**172**
08:00 AM	4	0	1	0	5	0	106	**2**	0	108	1	0	0	0	1	0	42	0	0	42	156
Total Volume	20	1	10	0	31	0	405	2	0	407	3	0	1	0	4	1	151	5	0	157	599
% App. Total	64.5	3.2	32.3	0		0	99.5	0.5	0		75	0	25	0		0.6	96.2	3.2	0		
PHF	.714	.250	.417	.000	.596	.000	.904	.250	.000	.908	.750	.000	.250	.000	1.00	.250	.899	.313	.000	.853	.871

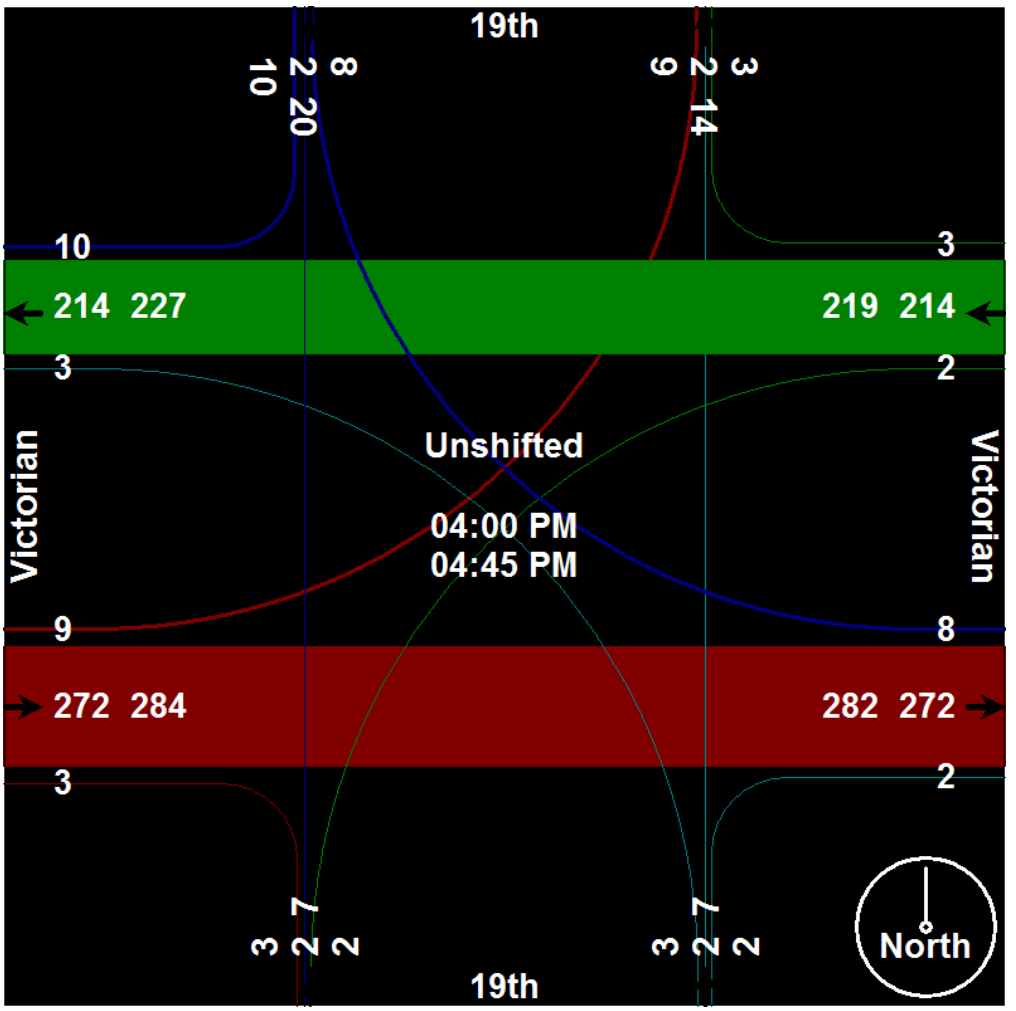


Silver State Traffic Data Collection, LLC

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File Name : Victorian-19th
Site Code : 00004444
Start Date : 9/23/2015
Page No : 3

	19th Southbound					Victorian Westbound					19th Northbound					Victorian Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:45 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	**6**	**2**	**3**	0	**11**	0	**62**	0	0	**62**	0	**1**	0	0	1	0	68	3	0	71	**145**
04:15 PM	0	0	2	0	2	**2**	45	**1**	0	48	0	0	1	0	1	1	**71**	1	0	**73**	124
04:30 PM	1	0	3	0	4	1	59	0	0	60	**1**	0	0	0	1	**2**	62	**4**	0	68	133
04:45 PM	3	0	0	0	3	0	48	1	0	49	1	1	**2**	0	**4**	0	71	1	0	72	128
Total Volume	10	2	8	0	20	3	214	2	0	219	2	2	3	0	7	3	272	9	0	284	530
% App. Total	50	10	40	0		1.4	97.7	0.9	0		28.6	28.6	42.9	0		1.1	95.8	3.2	0		
PHF	.417	.250	.667	.000	.455	.375	.863	.500	.000	.883	.500	.500	.375	.000	.438	.375	.958	.563	.000	.973	.914



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1819 Quarley Place
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File Name : Victorian-19th Bikes
Site Code : 00004444
Start Date : 9/23/2015
Page No : 1

Groups Printed- Unshifted

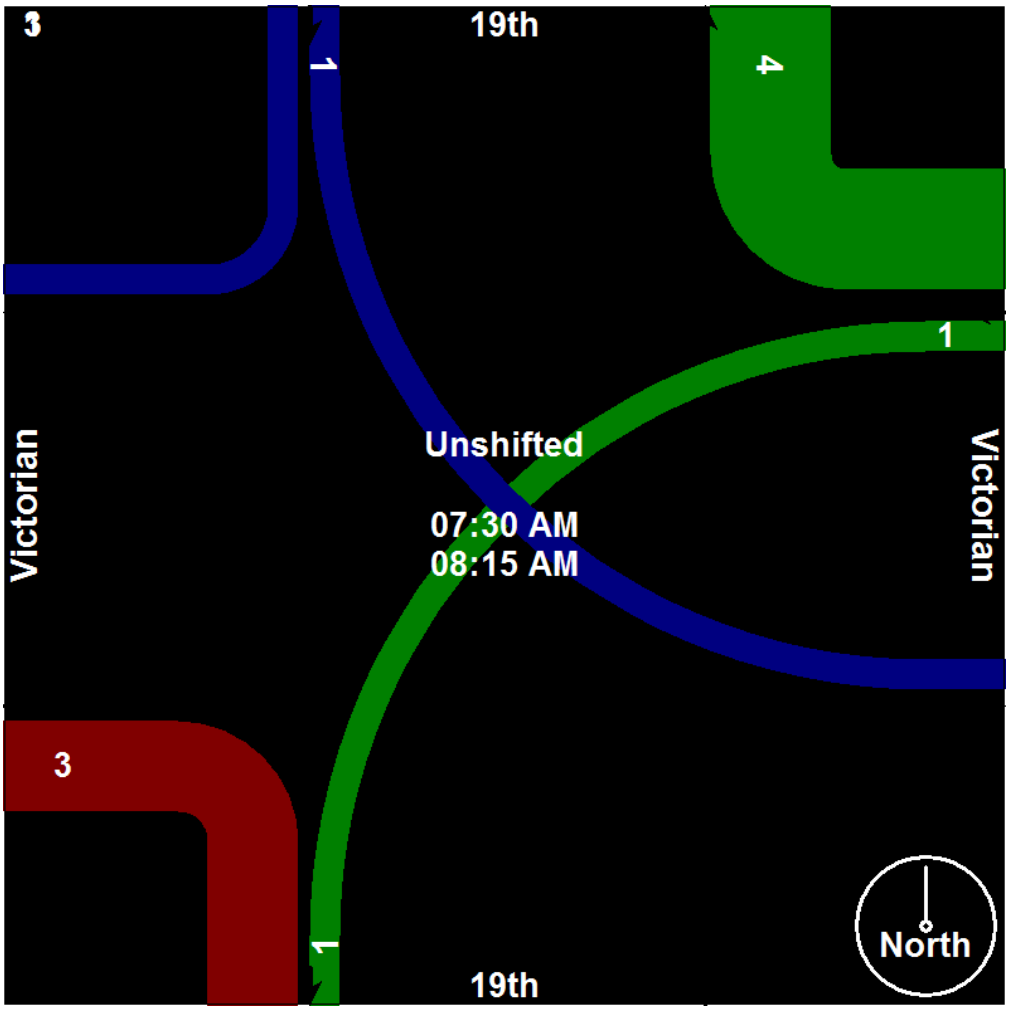
	19th Southbound				Victorian Westbound				19th Northbound				Victorian Eastbound				
Start Time	Westside	Thru	Eastside	Peds	Northside	Thru	Southside	Peds	Eastside	Thru	Westside	Peds	Southside	Thru	Northside	Peds	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
07:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
07:30 AM	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	3
07:45 AM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	0	1	0	5	0	0	0	0	0	0	0	1	0	0	0	7
08:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
08:15 AM	1	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	4
08:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	2
08:45 AM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Total	1	0	0	0	3	0	1	0	0	0	0	0	3	0	1	0	9
*** BREAK ***																	
04:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
04:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	2
Total	0	0	0	0	1	0	1	0	0	0	0	0	5	0	0	0	7
05:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	2
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
*** BREAK ***																	
Total	0	0	0	0	0	0	1	0	0	0	0	0	5	0	0	0	6
Grand Total	1	0	1	0	9	0	3	0	0	0	0	0	14	0	1	0	29
Apprch %	50	0	50	0	75	0	25	0	0	0	0	0	93.3	0	6.7	0	
Total %	3.4	0	3.4	0	31	0	10.3	0	0	0	0	0	48.3	0	3.4	0	

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File Name : Victorian-19th Bikes
Site Code : 00004444
Start Date : 9/23/2015

	19th Southbound					Victorian Westbound					19th Northbound					Victorian Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	0	**1**	0	**1**	**2**	0	0	0	**2**	0	0	0	0	0	0	0	0	0	0	3
07:45 AM	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
08:00 AM	0	0	0	0	0	0	0	**1**	0	1	0	0	0	0	0	0	0	0	0	0	1
08:15 AM	**1**	0	0	0	1	0	0	0	0	0	0	0	0	0	0	**3**	0	0	0	**3**	**4**
Total Volume	1	0	1	0	2	4	0	1	0	5	0	0	0	0	0	3	0	0	0	3	10
% App. Total	50	0	50	0		80	0	20	0		0	0	0	0		100	0	0	0		
PHF	.250	.000	.250	.000	.500	.500	.000	.250	.000	.625	.000	.000	.000	.000	.000	.250	.000	.000	.000	.250	.625

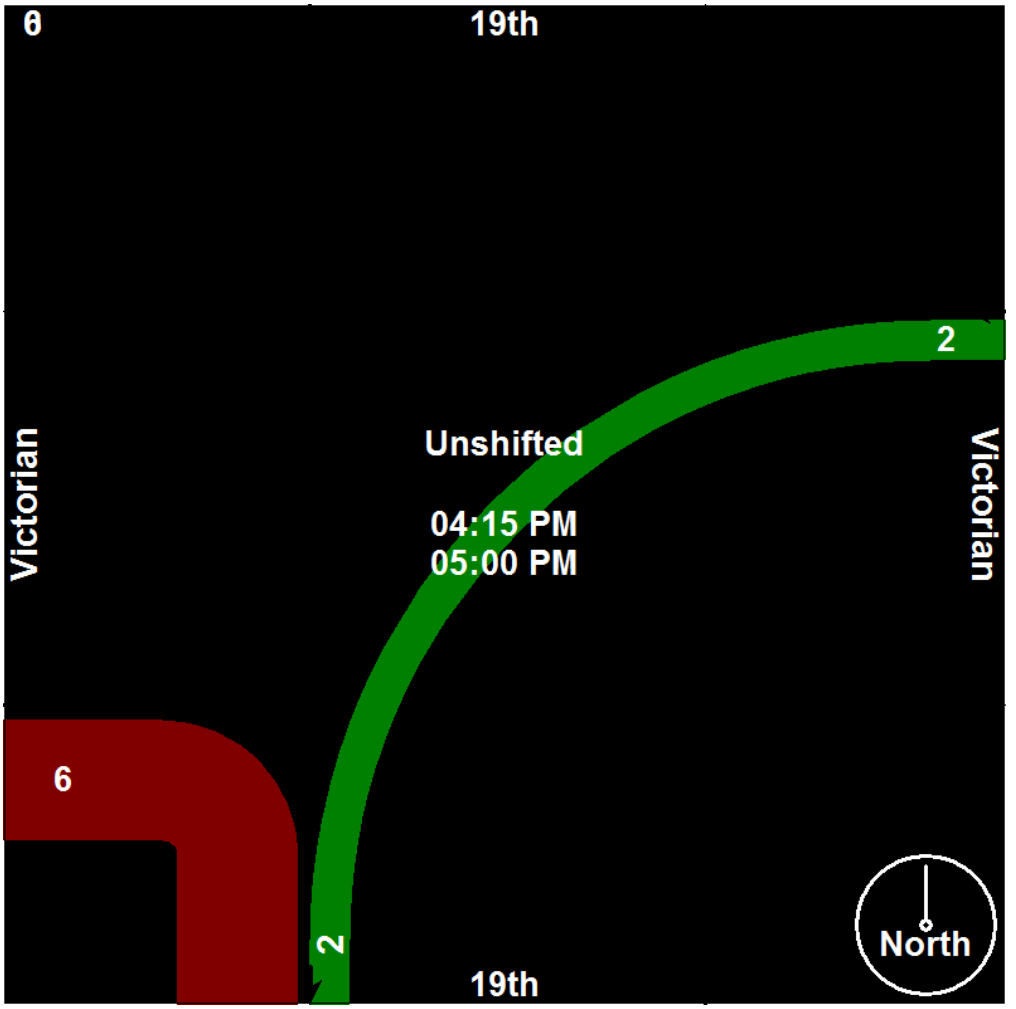


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File Name : Victorian-19th Bikes
Site Code : 00004444
Start Date : 9/23/2015
Page No : 3

	19th Southbound					Victorian Westbound					19th Northbound					Victorian Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**3**	0	0	0	**3**	**3**
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
04:45 PM	0	0	0	0	0	0	0	**1**	0	**1**	0	0	0	0	0	1	0	0	0	1	2
05:00 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0	0	1	2
Total Volume	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	6	0	0	0	6	8
% App. Total	0	0	0	0		0	0	100	0		0	0	0	0		100	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000	.000	.500	.000	.000	.000	.500	.667



Silver State Traffic Data Collection, LLC

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File Name : Victorian-19th Peds
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Start Date : 9/23/2015
Page No : 1

Groups Printed- Unshifted

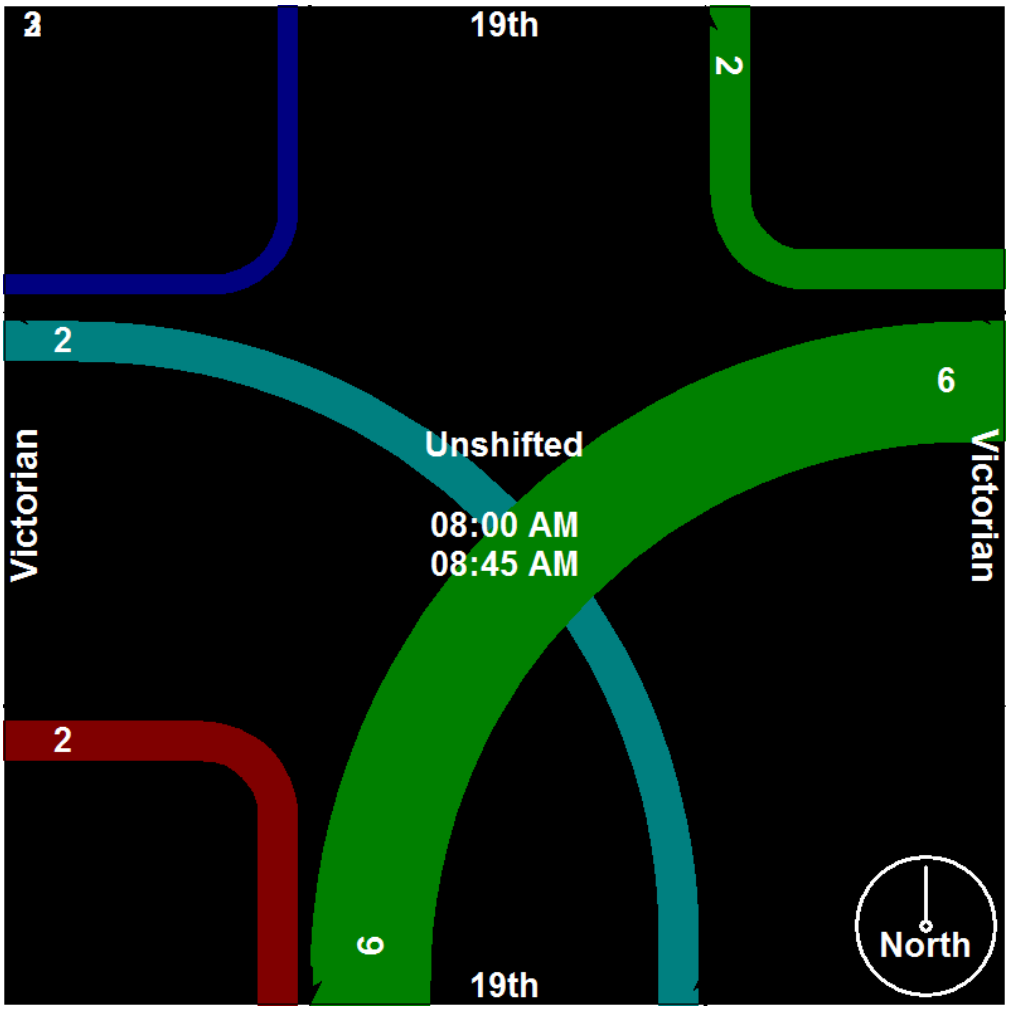
	19th Southbound				Victorian Westbound				19th Northbound				Victorian Eastbound				
Start Time	Westside	Thru	Eastside	Peds	Northside	Thru	Southside	Peds	Eastside	Thru	Westside	Peds	Southside	Thru	Northside	Peds	Int. Total
07:00 AM	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2
*** BREAK ***																	
07:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	2
07:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Total	1	0	0	0	0	0	1	0	1	0	0	0	2	0	0	0	5
*** BREAK ***																	
08:15 AM	0	0	0	0	2	0	2	0	0	0	0	0	2	0	0	0	6
*** BREAK ***																	
08:45 AM	1	0	0	0	0	0	4	0	0	0	2	0	0	0	0	0	7
Total	1	0	0	0	2	0	6	0	0	0	2	0	2	0	0	0	13
*** BREAK ***																	
04:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:15 PM	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	3
*** BREAK ***																	
Total	1	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	4
05:00 PM	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0	3
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
05:30 PM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2
05:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	2
Total	0	0	0	0	3	0	3	0	0	0	0	0	2	0	0	0	8
Grand Total	3	0	1	0	6	0	10	0	1	0	2	0	7	0	0	0	30
Apprch %	75	0	25	0	37.5	0	62.5	0	33.3	0	66.7	0	100	0	0	0	
Total %	10	0	3.3	0	20	0	33.3	0	3.3	0	6.7	0	23.3	0	0	0	

Silver State Traffic Data Collection, LLC

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Henderson, Nevada 89014
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File Name : Victorian-19th Peds
Site Code : 00004444
Start Date : 9/23/2015

	19th Southbound					Victorian Westbound					19th Northbound					Victorian Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	**2**	0	2	0	**4**	0	0	0	0	0	**2**	0	0	0	**2**	6
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	**1**	0	0	0	**1**	0	0	**4**	0	4	0	0	**2**	0	**2**	0	0	0	0	0	**7**
Total Volume	1	0	0	0	1	2	0	6	0	8	0	0	2	0	2	2	0	0	0	2	13
% App. Total	100	0	0	0		25	0	75	0		0	0	100	0		100	0	0	0		
PHF	.250	.000	.000	.000	.250	.250	.000	.375	.000	.500	.000	.000	.250	.000	.250	.250	.000	.000	.000	.250	.464

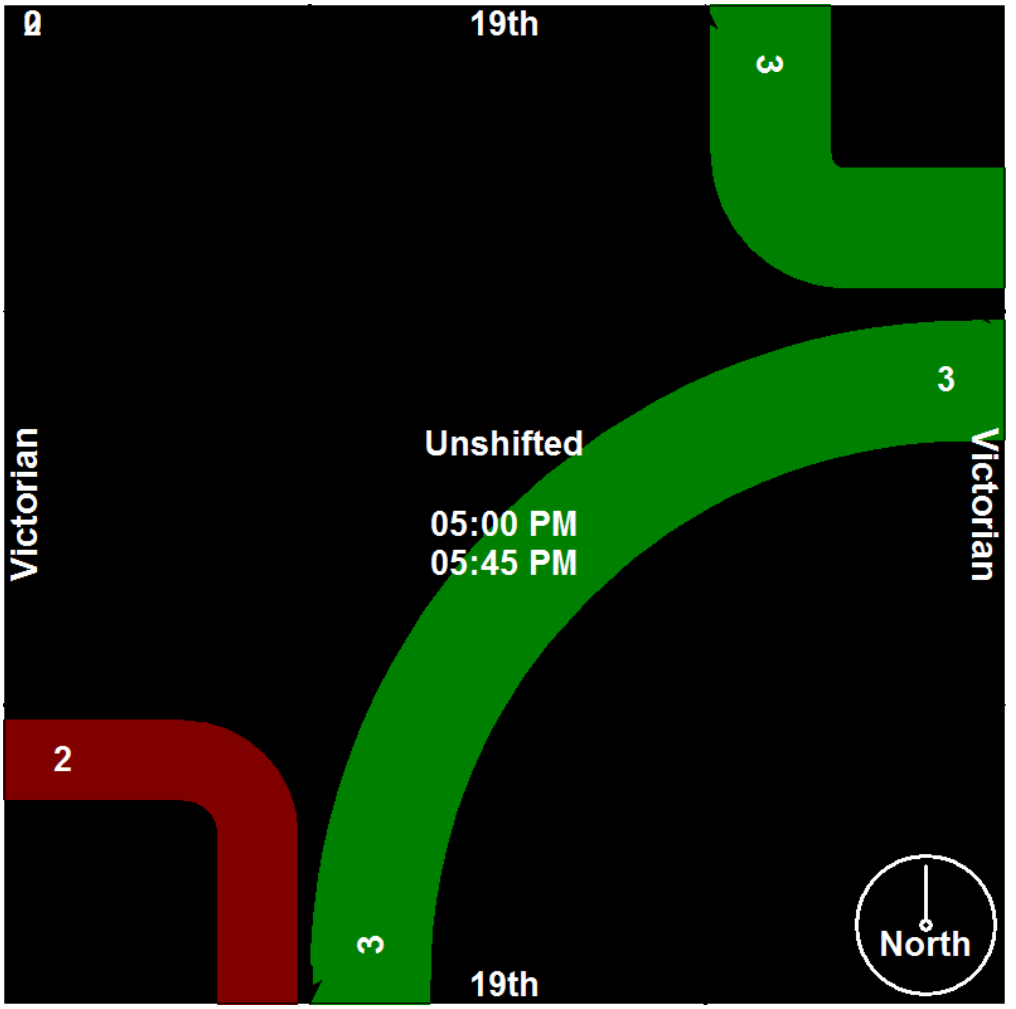


Silver State Traffic Data Collection, LLC

1819 Quarley Place
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702-217-1968
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File Name : Victorian-19th Peds
Site Code : 00004444
Start Date : 9/23/2015
Page No : 3

	19th Southbound					Victorian Westbound					19th Northbound					Victorian Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	0	0	0	0	**2**	0	**1**	0	**3**	0	0	0	0	0	0	0	0	0	0	**3**
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	0	0	**1**	1
05:30 PM	0	0	0	0	0	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	2
05:45 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0	0	1	2
Total Volume	0	0	0	0	0	3	0	3	0	6	0	0	0	0	0	2	0	0	0	2	8
% App. Total	0	0	0	0		50	0	50	0		0	0	0	0		100	0	0	0		
PHF	.000	.000	.000	.000	.000	.375	.000	.750	.000	.500	.000	.000	.000	.000	.000	.500	.000	.000	.000	.500	.667



Silver State Traffic Data Collection, LLC

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File Name : Sutro-11th
Site Code : 01111119
Start Date : 9/23/2015
Page No : 1

Groups Printed- Unshifted

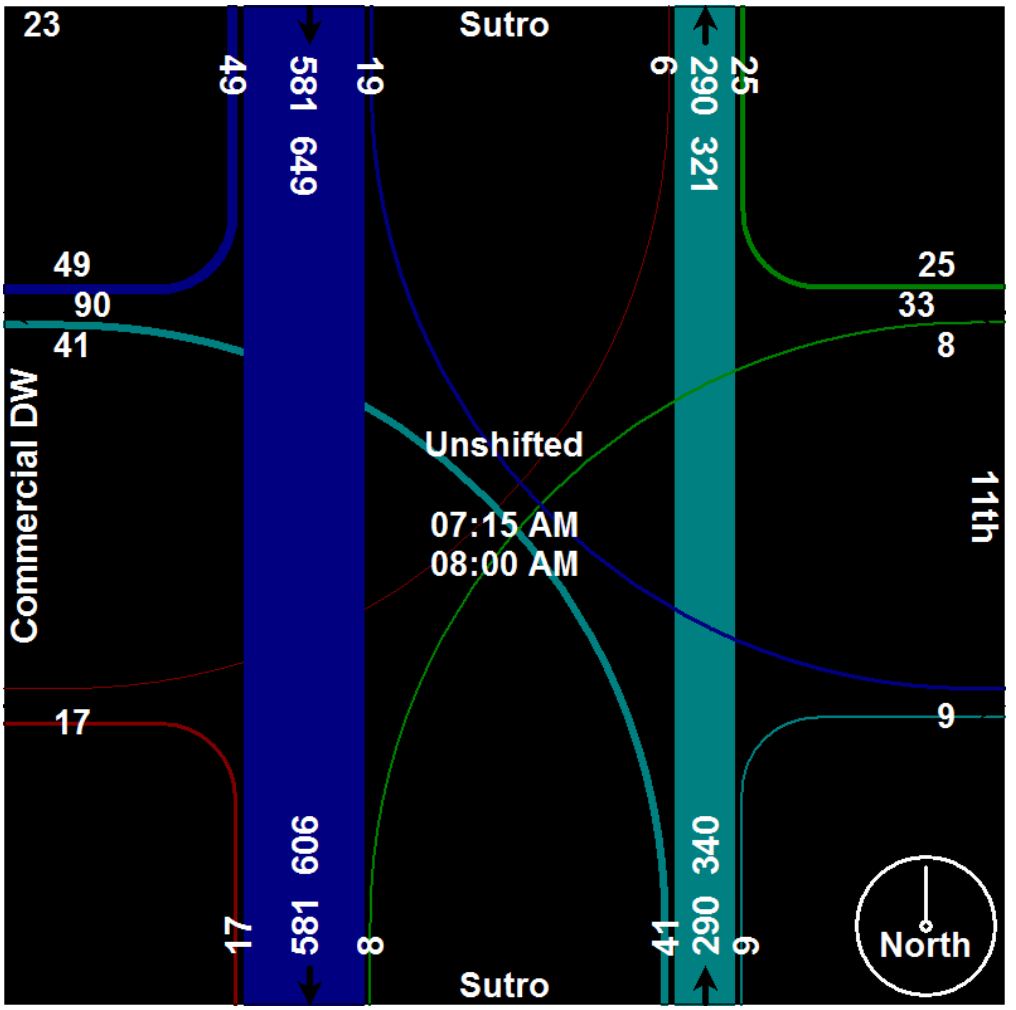
	Sutro Southbound				11th Westbound				Sutro Northbound				Commercial DW Eastbound				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	11	91	1	0	2	0	1	0	0	41	10	0	3	0	1	0	161
07:15 AM	10	103	1	0	8	0	2	0	1	46	6	0	0	0	1	0	178
07:30 AM	9	139	1	0	4	0	4	0	2	65	11	0	5	0	2	0	242
07:45 AM	16	192	9	0	7	0	1	0	2	83	11	0	6	0	1	0	328
Total	46	525	12	0	21	0	8	0	5	235	38	0	14	0	5	0	909
08:00 AM	14	147	8	0	6	0	1	0	4	96	13	0	6	0	2	0	297
08:15 AM	5	76	1	0	2	0	1	0	4	47	9	0	4	0	2	0	151
08:30 AM	5	71	0	0	4	0	1	0	1	43	9	0	2	0	0	0	136
08:45 AM	9	66	0	0	0	0	2	0	0	32	5	0	3	0	2	0	119
Total	33	360	9	0	12	0	5	0	9	218	36	0	15	0	6	0	703
*** BREAK ***																	
04:00 PM	1	67	2	0	1	0	0	0	4	107	5	0	6	2	8	0	203
04:15 PM	5	80	1	0	1	0	1	0	3	126	3	0	4	0	6	0	230
04:30 PM	1	71	0	0	1	0	2	0	1	154	3	0	4	0	12	0	249
04:45 PM	3	62	0	0	1	1	2	0	6	149	2	0	5	0	9	0	240
Total	10	280	3	0	4	1	5	0	14	536	13	0	19	2	35	0	922
05:00 PM	7	57	2	0	4	0	0	0	4	170	3	0	8	0	26	0	281
05:15 PM	1	52	2	0	2	0	2	0	3	143	2	0	5	1	8	0	221
05:30 PM	5	55	2	0	1	0	0	0	2	134	4	0	12	0	14	0	229
05:45 PM	3	62	0	0	0	0	1	0	6	80	1	0	9	0	3	0	165
Total	16	226	6	0	7	0	3	0	15	527	10	0	34	1	51	0	896
Grand Total	105	1391	30	0	44	1	21	0	43	1516	97	0	82	3	97	0	3430
Apprch %	6.9	91.2	2	0	66.7	1.5	31.8	0	2.6	91.5	5.9	0	45.1	1.6	53.3	0	
Total %	3.1	40.6	0.9	0	1.3	0	0.6	0	1.3	44.2	2.8	0	2.4	0.1	2.8	0	

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File Name : Sutro-11th
Site Code : 01111119
Start Date : 9/23/2015

	Sutro Southbound					11th Westbound					Sutro Northbound					Commercial DW Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	10	103	1	0	114	**8**	0	2	0	**10**	1	46	6	0	53	0	0	1	0	1	178
07:30 AM	9	139	1	0	149	4	0	**4**	0	8	2	65	11	0	78	5	0	**2**	0	7	242
07:45 AM	**16**	**192**	**9**	0	**217**	7	0	1	0	8	2	83	11	0	96	**6**	0	1	0	7	**328**
08:00 AM	14	147	8	0	169	6	0	1	0	7	**4**	**96**	**13**	0	**113**	6	0	2	0	**8**	297
Total Volume	49	581	19	0	649	25	0	8	0	33	9	290	41	0	340	17	0	6	0	23	1045
% App. Total	7.6	89.5	2.9	0		75.8	0	24.2	0		2.6	85.3	12.1	0		73.9	0	26.1	0		
PHF	.766	.757	.528	.000	.748	.781	.000	.500	.000	.825	.563	.755	.788	.000	.752	.708	.000	.750	.000	.719	.796

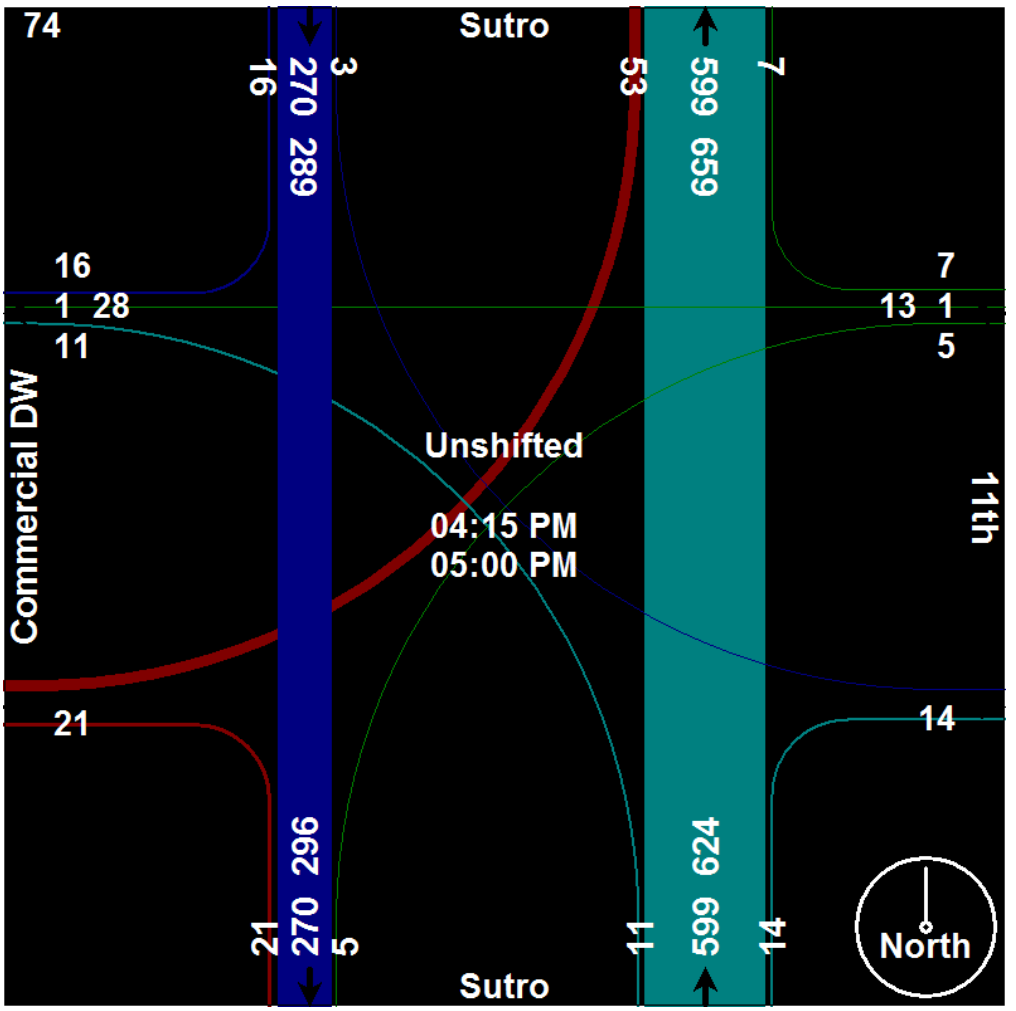


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File Name : Sutro-11th
Site Code : 01111119
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	Sutro Southbound					11th Westbound					Sutro Northbound					Commercial DW Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	5	**80**	1	0	**86**	1	0	1	0	2	3	126	**3**	0	132	4	0	6	0	10	230
04:30 PM	1	71	0	0	72	1	0	**2**	0	3	1	154	3	0	158	4	0	12	0	16	249
04:45 PM	3	62	0	0	65	1	**1**	2	0	**4**	**6**	149	2	0	157	5	0	9	0	14	240
05:00 PM	**7**	57	**2**	0	66	**4**	0	0	0	4	4	**170**	3	0	**177**	**8**	0	**26**	0	**34**	**281**
Total Volume	16	270	3	0	289	7	1	5	0	13	14	599	11	0	624	21	0	53	0	74	1000
% App. Total	5.5	93.4	1	0		53.8	7.7	38.5	0		2.2	96	1.8	0		28.4	0	71.6	0		
PHF	.571	.844	.375	.000	.840	.438	.250	.625	.000	.813	.583	.881	.917	.000	.881	.656	.000	.510	.000	.544	.890



Silver State Traffic Data Collection, LLC

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File Name : Sutro-11th Bikes
Site Code : 01111119
Start Date : 9/23/2015
Page No : 1

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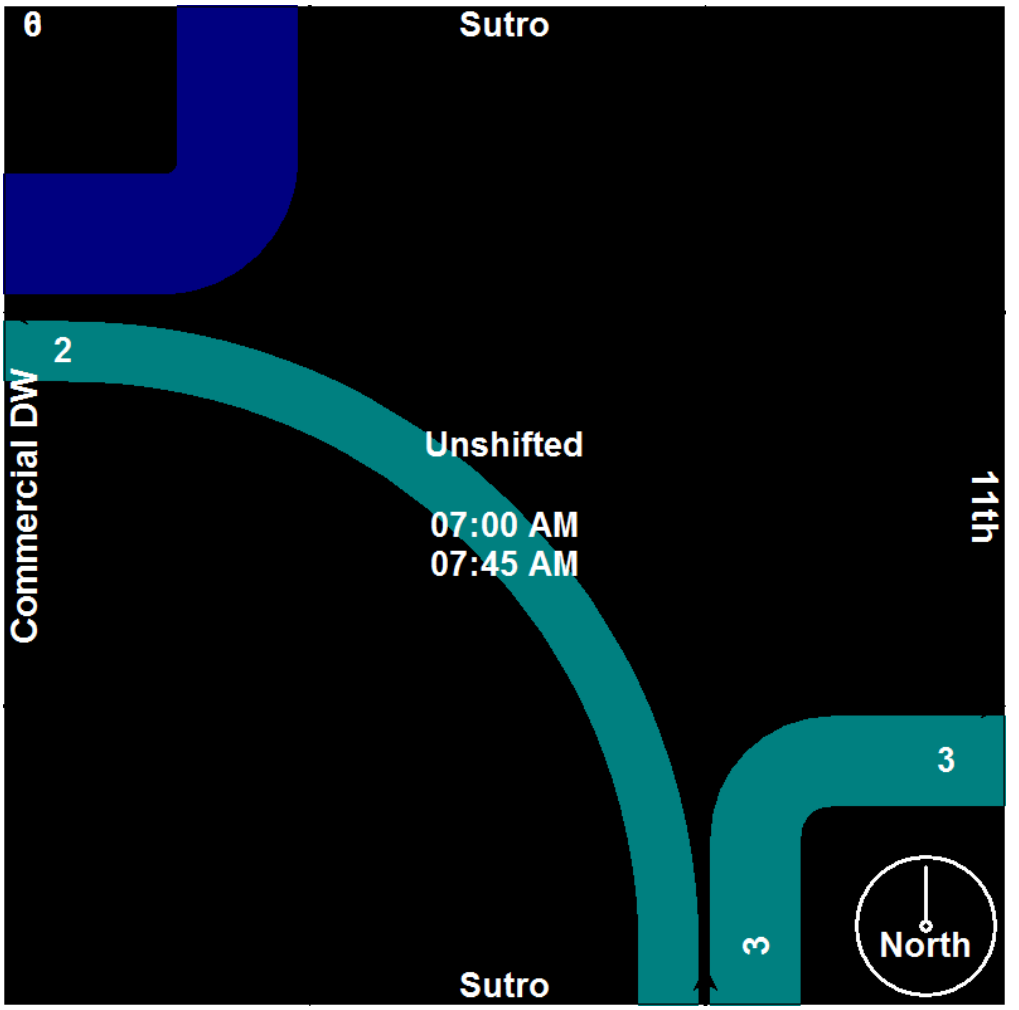
	Sutro Southbound				11th Westbound				Sutro Northbound				Commercial DW Eastbound				
Start Time	Westside	Thru	Eastside	Peds	Northside	Thru	Southside	Peds	Eastside	Thru	Westside	Peds	Southside	Thru	Northside	Peds	Int. Total
07:00 AM	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2
07:15 AM	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	3
07:30 AM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
07:45 AM	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2
Total	4	0	0	0	0	0	0	0	3	0	2	0	0	0	0	0	9
08:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
*** BREAK ***																	
08:30 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:45 AM	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	3	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	4
*** BREAK ***																	
04:00 PM	0	0	1	0	0	0	0	0	3	0	0	0	0	0	0	0	4
04:15 PM	1	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	4
04:30 PM	1	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	5
04:45 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	3	0	1	0	0	0	0	0	10	0	0	0	0	0	0	0	14
05:00 PM	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3
05:15 PM	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2
05:30 PM	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2
*** BREAK ***																	
Total	4	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	7
Grand Total	14	0	2	0	0	0	0	0	14	0	4	0	0	0	0	0	34
Apprch %	87.5	0	12.5	0	0	0	0	0	77.8	0	22.2	0	0	0	0	0	
Total %	41.2	0	5.9	0	0	0	0	0	41.2	0	11.8	0	0	0	0	0	

Silver State Traffic Data Collection, LLC

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File Name : Sutro-11th Bikes
Site Code : 01111119
Start Date : 9/23/2015

	Sutro Southbound					11th Westbound					Sutro Northbound					Commercial DW Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	1	0	0	0	1	0	0	0	0	0	0	0	**1**	0	1	0	0	0	0	0	2
07:15 AM	**2**	0	0	0	**2**	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	**3**
07:30 AM	0	0	0	0	0	0	0	0	0	0	**2**	0	0	0	**2**	0	0	0	0	0	2
07:45 AM	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2
Total Volume	4	0	0	0	4	0	0	0	0	0	3	0	2	0	5	0	0	0	0	0	9
% App. Total	100	0	0	0		0	0	0	0		60	0	40	0		0	0	0	0		
PHF	.500	.000	.000	.000	.500	.000	.000	.000	.000	.000	.375	.000	.500	.000	.625	.000	.000	.000	.000	.000	.750

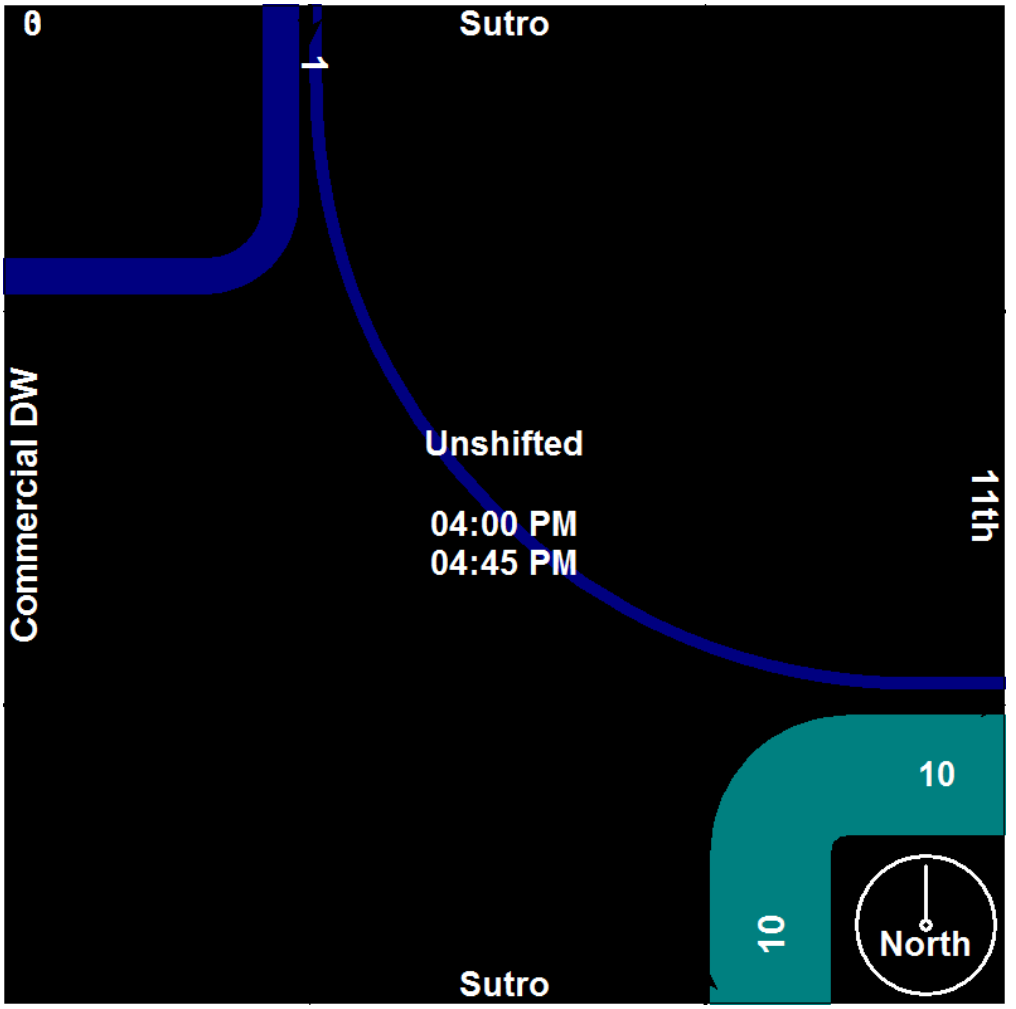


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File Name : Sutro-11th Bikes
Site Code : 01111119
Start Date : 9/23/2015

	Sutro Southbound					11th Westbound					Sutro Northbound					Commercial DW Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	0	**1**	0	**1**	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	4
04:15 PM	**1**	0	0	0	1	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	4
04:30 PM	1	0	0	0	1	0	0	0	0	0	**4**	0	0	0	**4**	0	0	0	0	0	**5**
04:45 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	3	0	1	0	4	0	0	0	0	0	10	0	0	0	10	0	0	0	0	0	14
% App. Total	75	0	25	0		0	0	0	0		100	0	0	0		0	0	0	0		
PHF	.750	.000	.250	.000	1.00	.000	.000	.000	.000	.000	.625	.000	.000	.000	.625	.000	.000	.000	.000	.000	.700



Silver State Traffic Data Collection, LLC

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File Name : Sutro-11th Peds
Site Code : 01111119
Start Date : 9/23/2015
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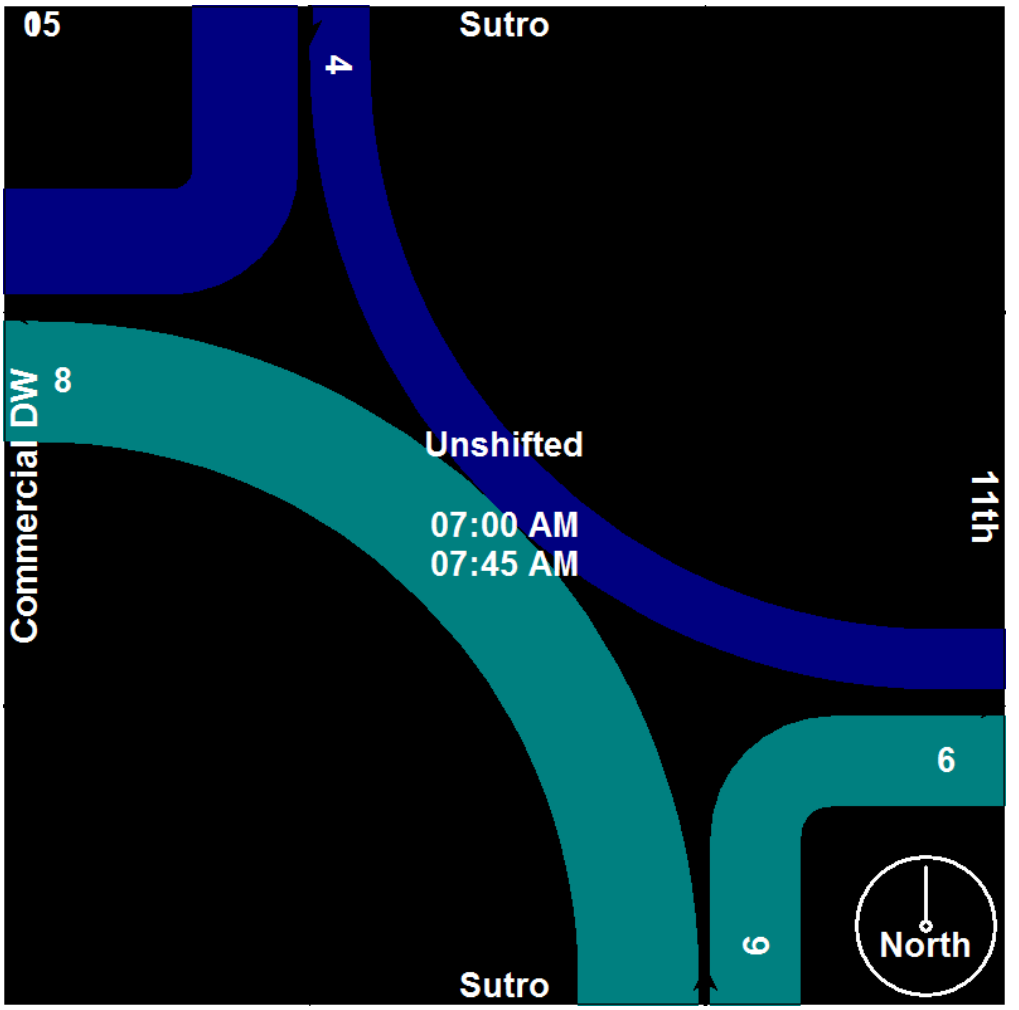
	Sutro Southbound				11th Westbound				Sutro Northbound				Commercial DW Eastbound				
Start Time	Westside	Thru	Eastside	Peds	Northside	Thru	Southside	Peds	Eastside	Thru	Westside	Peds	Southside	Thru	Northside	Peds	Int. Total
07:00 AM	1	0	3	0	0	0	0	0	1	0	2	0	0	0	0	0	7
07:15 AM	2	0	1	0	0	0	0	0	2	0	3	0	0	0	0	0	8
07:30 AM	2	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	5
07:45 AM	2	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	5
Total	7	0	4	0	0	0	0	0	6	0	8	0	0	0	0	0	25
08:00 AM	1	0	2	0	0	0	0	0	1	0	1	0	0	0	0	0	5
08:15 AM	4	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	8
08:30 AM	1	0	0	0	0	0	0	0	1	0	3	0	0	0	0	0	5
08:45 AM	2	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	4
Total	8	0	2	0	0	0	0	0	5	0	7	0	0	0	0	0	22
*** BREAK ***																	
04:00 PM	2	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	6
04:15 PM	2	0	1	0	0	0	0	0	2	0	2	0	0	0	0	0	7
04:30 PM	0	0	2	0	0	0	0	0	0	0	1	0	1	0	0	0	4
04:45 PM	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	3
Total	5	0	3	0	0	0	0	0	5	0	6	0	1	0	0	0	20
05:00 PM	4	0	0	0	0	0	0	0	4	0	1	0	0	0	0	0	9
05:15 PM	0	0	0	0	0	0	0	0	1	0	2	0	0	0	1	0	4
05:30 PM	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	3
05:45 PM	1	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	4
Total	6	0	2	0	0	0	0	0	7	0	4	0	0	0	1	0	20
Grand Total	26	0	11	0	0	0	0	0	23	0	25	0	1	0	1	0	87
Apprch %	70.3	0	29.7	0	0	0	0	0	47.9	0	52.1	0	50	0	50	0	
Total %	29.9	0	12.6	0	0	0	0	0	26.4	0	28.7	0	1.1	0	1.1	0	

Silver State Traffic Data Collection, LLC

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File Name : Sutro-11th Peds
Site Code : 01111119
Start Date : 9/23/2015

	Sutro Southbound					11th Westbound					Sutro Northbound					Commercial DW Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 12:30 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	1	0	**3**	0	**4**	0	0	0	0	0	1	0	2	0	3	0	0	0	0	0	7
07:15 AM	**2**	0	1	0	3	0	0	0	0	0	**2**	0	**3**	0	**5**	0	0	0	0	0	**8**
07:30 AM	2	0	0	0	2	0	0	0	0	0	2	0	1	0	3	0	0	0	0	0	5
07:45 AM	2	0	0	0	2	0	0	0	0	0	1	0	2	0	3	0	0	0	0	0	5
Total Volume	7	0	4	0	11	0	0	0	0	0	6	0	8	0	14	0	0	0	0	0	25
% App. Total	63.6	0	36.4	0		0	0	0	0		42.9	0	57.1	0		0	0	0	0		
PHF	.875	.000	.333	.000	.688	.000	.000	.000	.000	.000	.750	.000	.667	.000	.700	.000	.000	.000	.000	.000	.781

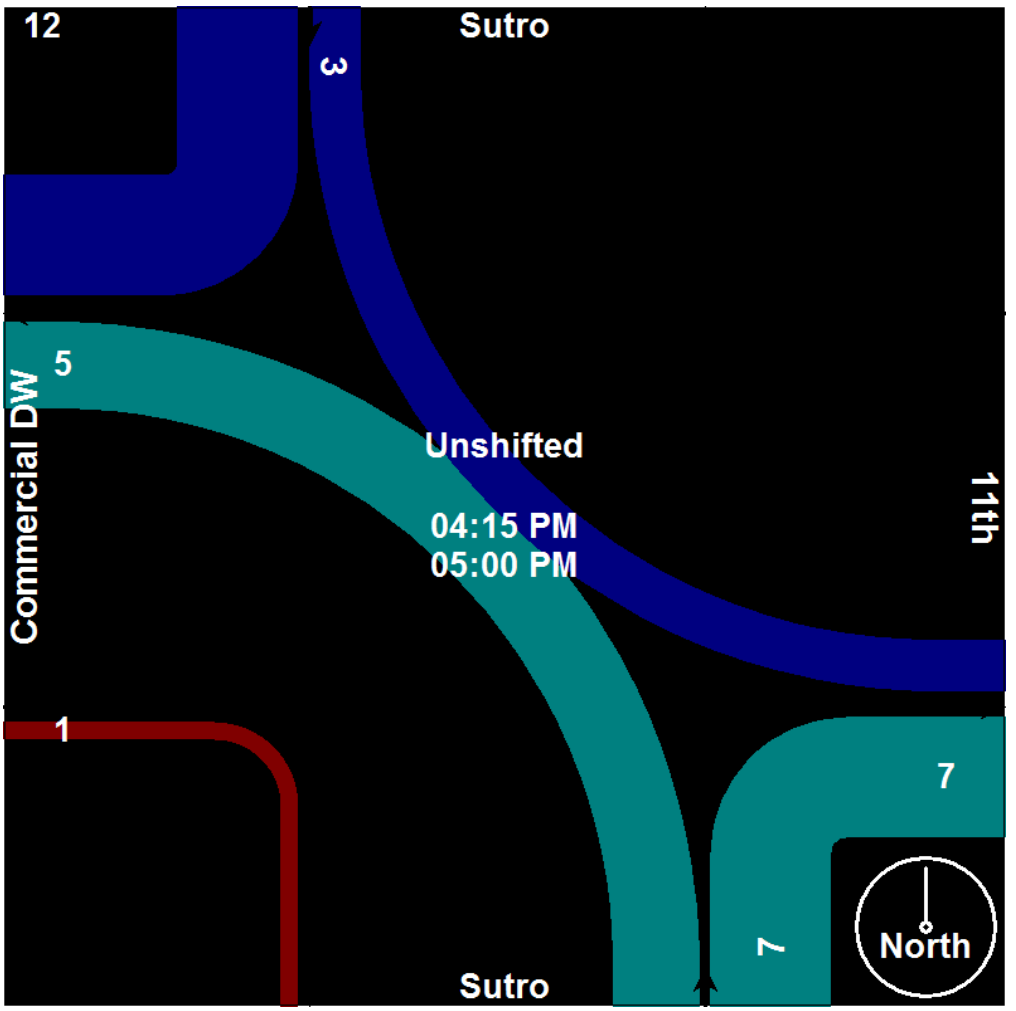


Silver State Traffic Data Collection, LLC

1819 Quarley Place
Henderson, Nevada 89014
702-217-1968
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File Name : Sutro-11th Peds
Site Code : 01111119
Start Date : 9/23/2015
Page No : 3

	Sutro Southbound					11th Westbound					Sutro Northbound					Commercial DW Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:45 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	2	0	1	0	3	0	0	0	0	0	2	0	**2**	0	4	0	0	0	0	0	7
04:30 PM	0	0	**2**	0	2	0	0	0	0	0	0	0	1	0	1	**1**	0	0	0	**1**	4
04:45 PM	1	0	0	0	1	0	0	0	0	0	1	0	1	0	2	0	0	0	0	0	3
05:00 PM	**4**	0	0	0	**4**	0	0	0	0	0	**4**	0	1	0	**5**	0	0	0	0	0	**9**
Total Volume	7	0	3	0	10	0	0	0	0	0	7	0	5	0	12	1	0	0	0	1	23
% App. Total	70	0	30	0		0	0	0	0		58.3	0	41.7	0		100	0	0	0		
PHF	.438	.000	.375	.000	.625	.000	.000	.000	.000	.000	.438	.000	.625	.000	.600	.250	.000	.000	.000	.250	.639



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File Name : Nichols-Pine Meadows
Site Code : 05954311
Start Date : 9/24/2015
Page No : 1

Groups Printed- Unshifted

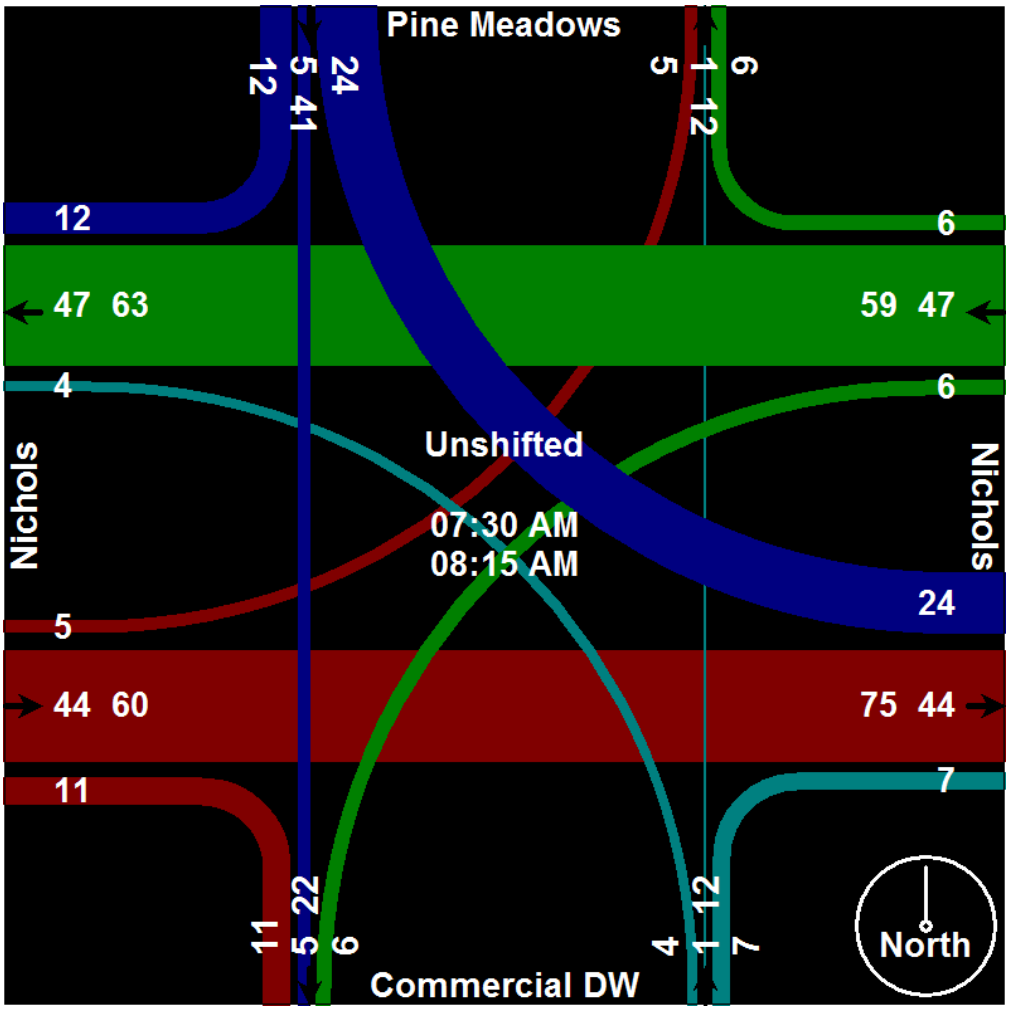
	Pine Meadows Southbound				Nichols Westbound				Commercial DW Northbound				Nichols Eastbound				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	2	1	4	0	2	8	0	0	1	0	0	0	1	4	2	0	25
07:15 AM	2	0	5	0	0	8	2	0	1	0	1	0	0	15	3	0	37
07:30 AM	2	1	10	0	2	10	1	0	1	0	0	0	5	12	2	0	46
07:45 AM	3	2	2	0	1	16	2	0	2	0	1	0	1	9	0	0	39
Total	9	4	21	0	5	42	5	0	5	0	2	0	7	40	7	0	147
08:00 AM	6	2	4	0	1	8	2	0	2	1	0	0	4	8	1	0	39
08:15 AM	1	0	8	0	2	13	1	0	2	0	3	0	1	15	2	0	48
08:30 AM	1	0	4	0	1	11	1	0	0	0	2	0	2	15	1	0	38
08:45 AM	2	0	1	0	0	13	1	0	2	0	2	0	0	13	2	0	36
Total	10	2	17	0	4	45	5	0	6	1	7	0	7	51	6	0	161
*** BREAK ***																	
04:00 PM	0	0	2	0	5	20	5	0	0	1	7	0	3	19	1	0	63
04:15 PM	3	0	4	0	3	11	0	0	0	0	2	0	1	29	2	0	55
04:30 PM	2	2	3	0	1	18	4	0	1	0	7	0	8	22	0	0	68
04:45 PM	3	0	3	0	6	22	3	0	3	2	3	0	2	19	3	0	69
Total	8	2	12	0	15	71	12	0	4	3	19	0	14	89	6	0	255
05:00 PM	5	2	6	0	4	21	0	0	3	0	1	0	2	24	4	0	72
05:15 PM	1	1	0	0	5	30	3	0	3	0	4	0	7	22	4	0	80
05:30 PM	1	0	1	0	4	19	0	0	2	1	1	0	2	22	2	0	55
05:45 PM	3	0	4	0	2	20	1	0	1	0	1	0	2	26	1	0	61
Total	10	3	11	0	15	90	4	0	9	1	7	0	13	94	11	0	268
Grand Total	37	11	61	0	39	248	26	0	24	5	35	0	41	274	30	0	831
Apprch %	33.9	10.1	56	0	12.5	79.2	8.3	0	37.5	7.8	54.7	0	11.9	79.4	8.7	0	
Total %	4.5	1.3	7.3	0	4.7	29.8	3.1	0	2.9	0.6	4.2	0	4.9	33	3.6	0	

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1819 Quarley Place
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File Name : Nichols-Pine Meadows
Site Code : 05954311
Start Date : 9/24/2015

	Pine Meadows Southbound					Nichols Westbound					Commercial DW Northbound					Nichols Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	2	1	**10**	0	**13**	**2**	10	1	0	13	1	0	0	0	1	**5**	12	**2**	0	**19**	46
07:45 AM	3	**2**	2	0	7	1	**16**	**2**	0	**19**	**2**	0	1	0	3	1	9	0	0	10	39
08:00 AM	**6**	2	4	0	12	1	8	2	0	11	2	**1**	0	0	3	4	8	1	0	13	39
08:15 AM	1	0	8	0	9	2	13	1	0	16	2	0	**3**	0	**5**	1	**15**	2	0	18	**48**
Total Volume	12	5	24	0	41	6	47	6	0	59	7	1	4	0	12	11	44	5	0	60	172
% App. Total	29.3	12.2	58.5	0		10.2	79.7	10.2	0		58.3	8.3	33.3	0		18.3	73.3	8.3	0		
PHF	.500	.625	.600	.000	.788	.750	.734	.750	.000	.776	.875	.250	.333	.000	.600	.550	.733	.625	.000	.789	.896

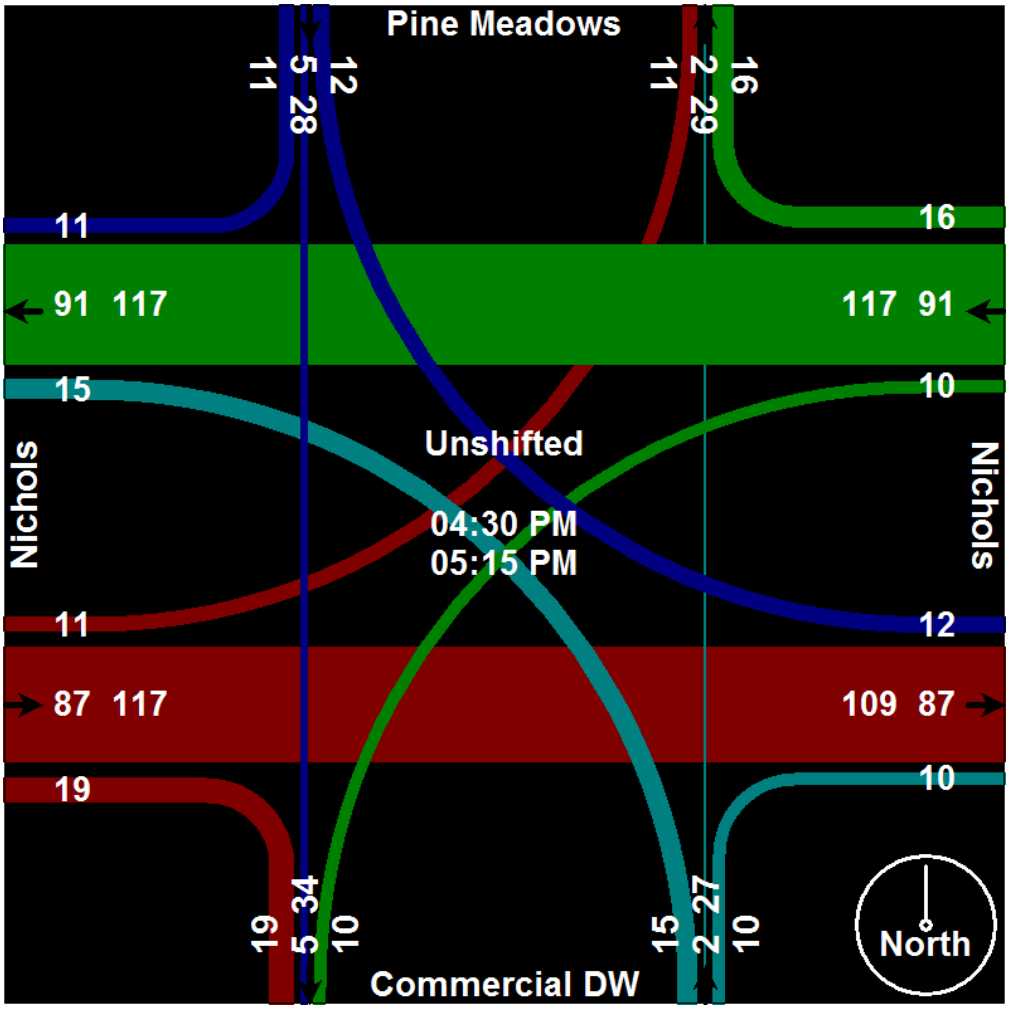


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File Name : Nichols-Pine Meadows
Site Code : 05954311
Start Date : 9/24/2015
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	Pine Meadows Southbound					Nichols Westbound					Commercial DW Northbound					Nichols Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	2	**2**	3	0	7	1	18	**4**	0	23	1	0	**7**	0	**8**	**8**	22	0	0	30	68
04:45 PM	3	0	3	0	6	**6**	22	3	0	31	**3**	**2**	3	0	8	2	19	3	0	24	69
05:00 PM	**5**	2	**6**	0	**13**	4	21	0	0	25	3	0	1	0	4	2	**24**	**4**	0	30	72
05:15 PM	1	1	0	0	2	5	**30**	3	0	**38**	3	0	4	0	7	7	22	4	0	**33**	**80**
Total Volume	11	5	12	0	28	16	91	10	0	117	10	2	15	0	27	19	87	11	0	117	289
% App. Total	39.3	17.9	42.9	0		13.7	77.8	8.5	0		37	7.4	55.6	0		16.2	74.4	9.4	0		
PHF	.550	.625	.500	.000	.538	.667	.758	.625	.000	.770	.833	.250	.536	.000	.844	.594	.906	.688	.000	.886	.903



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1819 Quarley Place
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File Name : Nichols-Pine Meadows Bikes
Site Code : 05954311
Start Date : 9/24/2015
Page No : 1

Groups Printed- Unshifted

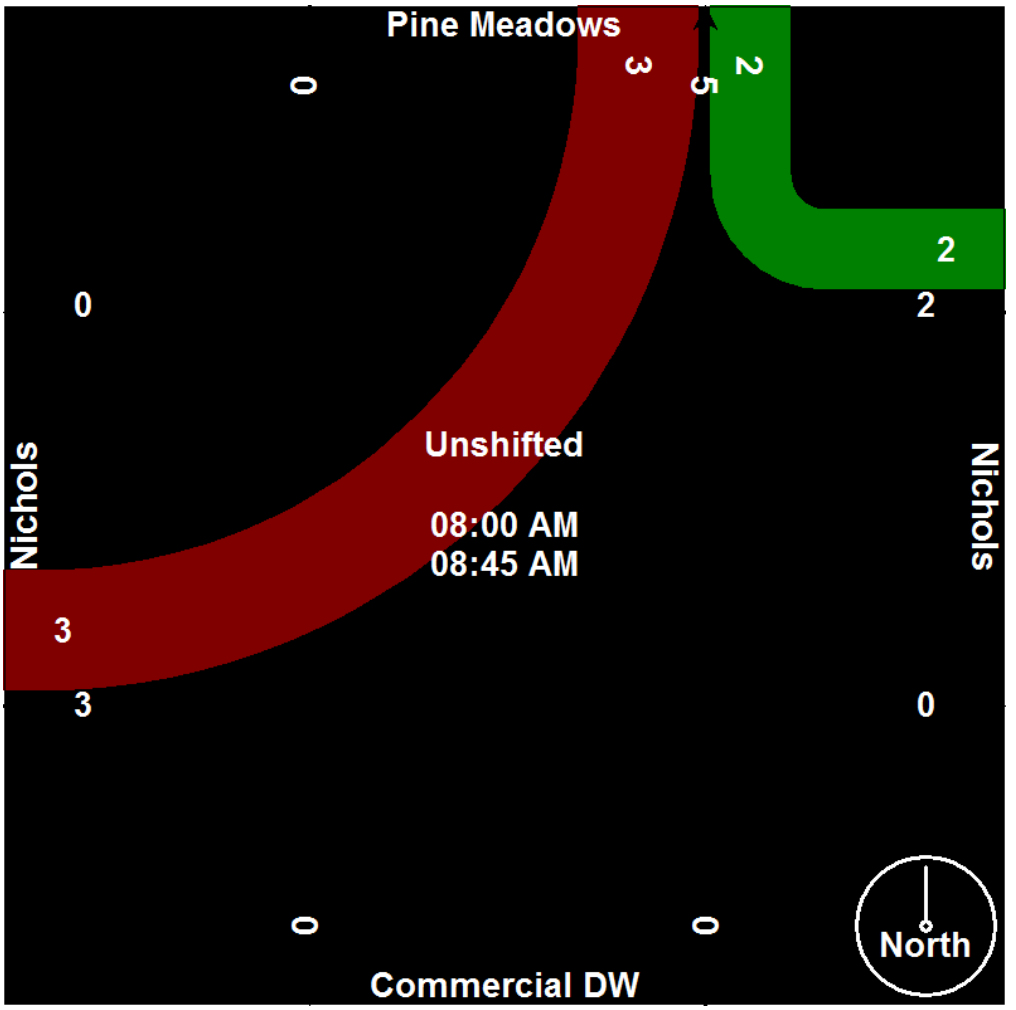
	Pine Meadows Southbound				Nichols Westbound				Commercial DW Northbound				Nichols Eastbound				
Start Time	Westside	Thru	Eastside	Peds	Northside	Thru	Southside	Peds	Eastside	Thru	Westside	Peds	Southside	Thru	Northside	Peds	Int. Total
*** BREAK ***																	
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
08:00 AM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
*** BREAK ***																	
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
Total	0	0	0	0	2	0	0	0	0	0	0	0	0	0	3	0	5
*** BREAK ***																	
04:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
04:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	2
Total	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3	0	6
05:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	2
05:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																	
05:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	2
Total	0	0	1	0	2	0	0	0	0	0	0	0	0	0	2	0	5
Grand Total	0	0	1	0	7	0	0	0	0	0	0	0	0	0	9	0	17
Apprch %	0	0	100	0	100	0	0	0	0	0	0	0	0	0	100	0	
Total %	0	0	5.9	0	41.2	0	0	0	0	0	0	0	0	0	52.9	0	

Silver State Traffic Data Collection, LLC

1819 Quarley Place
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File Name : Nichols-Pine Meadows Bikes
Site Code : 05954311
Start Date : 9/24/2015

	Pine Meadows Southbound					Nichols Westbound					Commercial DW Northbound					Nichols Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	0	0	0	0	**2**	0	0	0	**2**	0	0	0	0	0	0	0	0	0	0	**2**
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**	0	**2**	2
Total Volume	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	3	0	3	5
% App. Total	0	0	0	0		100	0	0	0		0	0	0	0		0	0	100	0		
PHF	.000	.000	.000	.000	.000	.250	.000	.000	.000	.250	.000	.000	.000	.000	.000	.000	.000	.375	.000	.375	.625

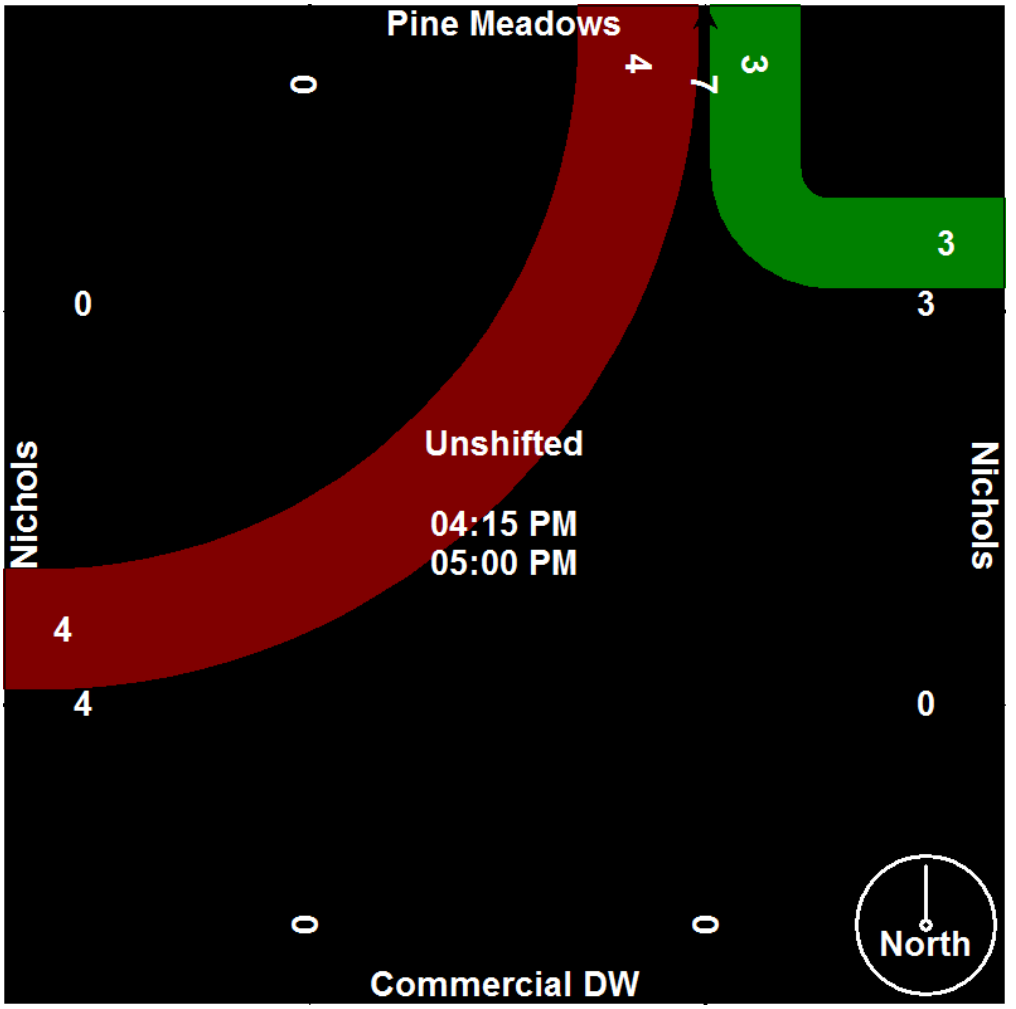


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File Name : Nichols-Pine Meadows Bikes
Site Code : 05954311
Start Date : 9/24/2015

	Pine Meadows Southbound					Nichols Westbound					Commercial DW Northbound					Nichols Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	0	0	0	0	0	**1**	0	0	0	**1**	0	0	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**	0	**2**	**2**
04:45 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	2
05:00 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	2
Total Volume	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	4	0	4	7
% App. Total	0	0	0	0		100	0	0	0		0	0	0	0		0	0	100	0		
PHF	.000	.000	.000	.000	.000	.750	.000	.000	.000	.750	.000	.000	.000	.000	.000	.000	.000	.500	.000	.500	.875



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File Name : Nichols-Pine Meadows Peds
Site Code : 05954311
Start Date : 9/24/2015
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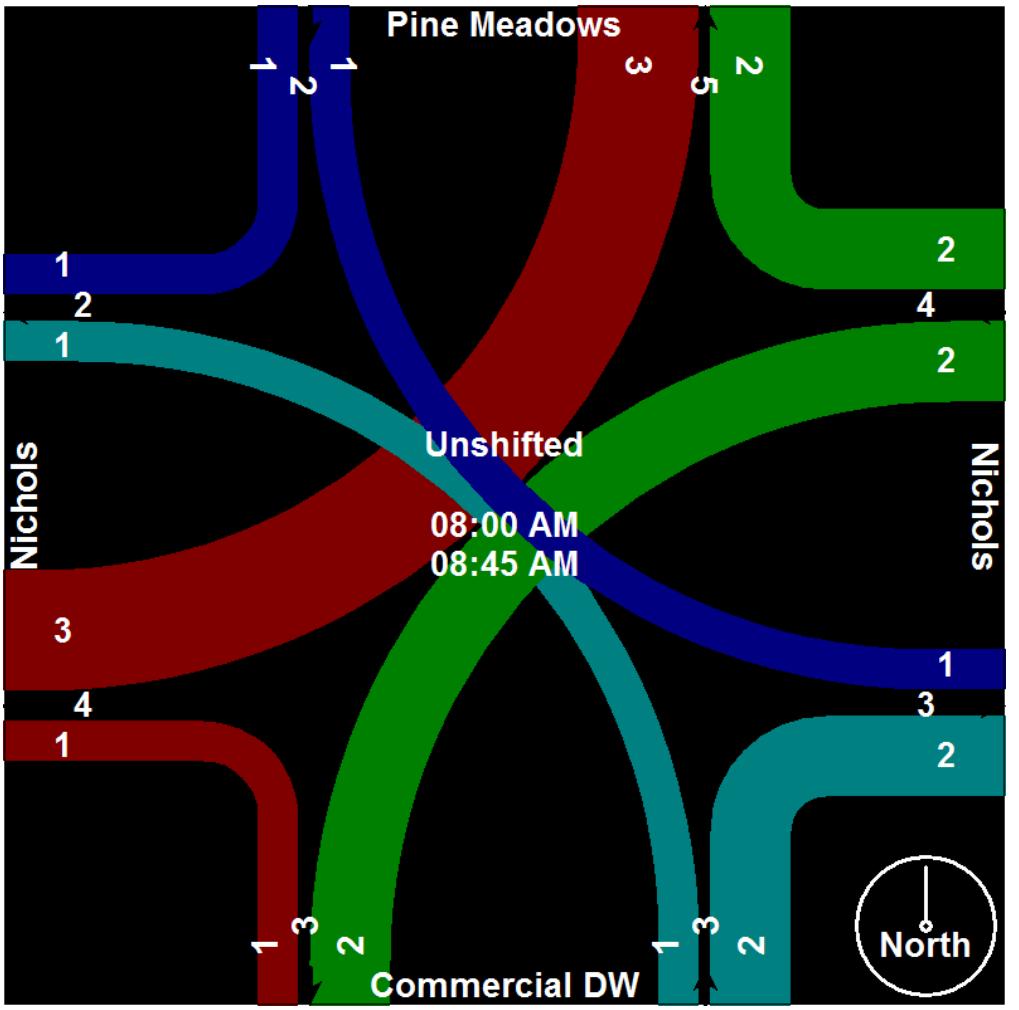
	Pine Meadows Southbound				Nichols Westbound				Commercial DW Northbound				Nichols Eastbound				
Start Time	Westside	Thru	Eastside	Peds	Northside	Thru	Southside	Peds	Eastside	Thru	Westside	Peds	Southside	Thru	Northside	Peds	Int. Total
07:00 AM	0	0	0	0	3	0	0	0	0	0	0	0	1	0	2	0	6
07:15 AM	0	0	1	0	0	0	1	0	1	0	0	0	0	0	1	0	4
07:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																	
Total	0	0	1	0	4	0	1	0	1	0	0	0	1	0	3	0	11
08:00 AM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	3
08:15 AM	1	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	4
08:30 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	2	0	4
08:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	2
Total	1	0	1	0	2	0	2	0	2	0	1	0	1	0	3	0	13
*** BREAK ***																	
04:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	1	0	3	0	5
04:15 PM	0	0	0	0	0	0	1	0	0	0	2	0	0	0	1	0	4
04:30 PM	2	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	4
04:45 PM	0	0	0	0	2	0	4	0	1	0	0	0	2	0	2	0	11
Total	2	0	0	0	3	0	6	0	1	0	2	0	4	0	6	0	24
05:00 PM	0	0	5	0	0	0	1	0	2	0	1	0	0	0	1	0	10
05:15 PM	1	0	0	0	1	0	2	0	3	0	0	0	1	0	2	0	10
05:30 PM	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	4
05:45 PM	2	0	2	0	1	0	0	0	0	0	0	0	0	0	3	0	8
Total	3	0	7	0	4	0	3	0	5	0	3	0	1	0	6	0	32
Grand Total	6	0	9	0	13	0	12	0	9	0	6	0	7	0	18	0	80
Apprch %	40	0	60	0	52	0	48	0	60	0	40	0	28	0	72	0	
Total %	7.5	0	11.2	0	16.2	0	15	0	11.2	0	7.5	0	8.8	0	22.5	0	

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File Name : Nichols-Pine Meadows Peds
Site Code : 05954311
Start Date : 9/24/2015
Page No : 2

	Pine Meadows Southbound					Nichols Westbound					Commercial DW Northbound					Nichols Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	0	0	0	0	**2**	0	0	0	**2**	0	0	0	0	0	0	0	1	0	1	3
08:15 AM	**1**	0	0	0	**1**	0	0	**1**	0	1	**1**	0	**1**	0	**2**	0	0	0	0	0	**4**
08:30 AM	0	0	**1**	0	1	0	0	1	0	1	0	0	0	0	0	0	0	**2**	0	**2**	4
08:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	**1**	0	0	0	1	2
Total Volume	1	0	1	0	2	2	0	2	0	4	2	0	1	0	3	1	0	3	0	4	13
% App. Total	50	0	50	0		50	0	50	0		66.7	0	33.3	0		25	0	75	0		
PHF	.250	.000	.250	.000	.500	.250	.000	.500	.000	.500	.500	.000	.250	.000	.375	.250	.000	.375	.000	.500	.813

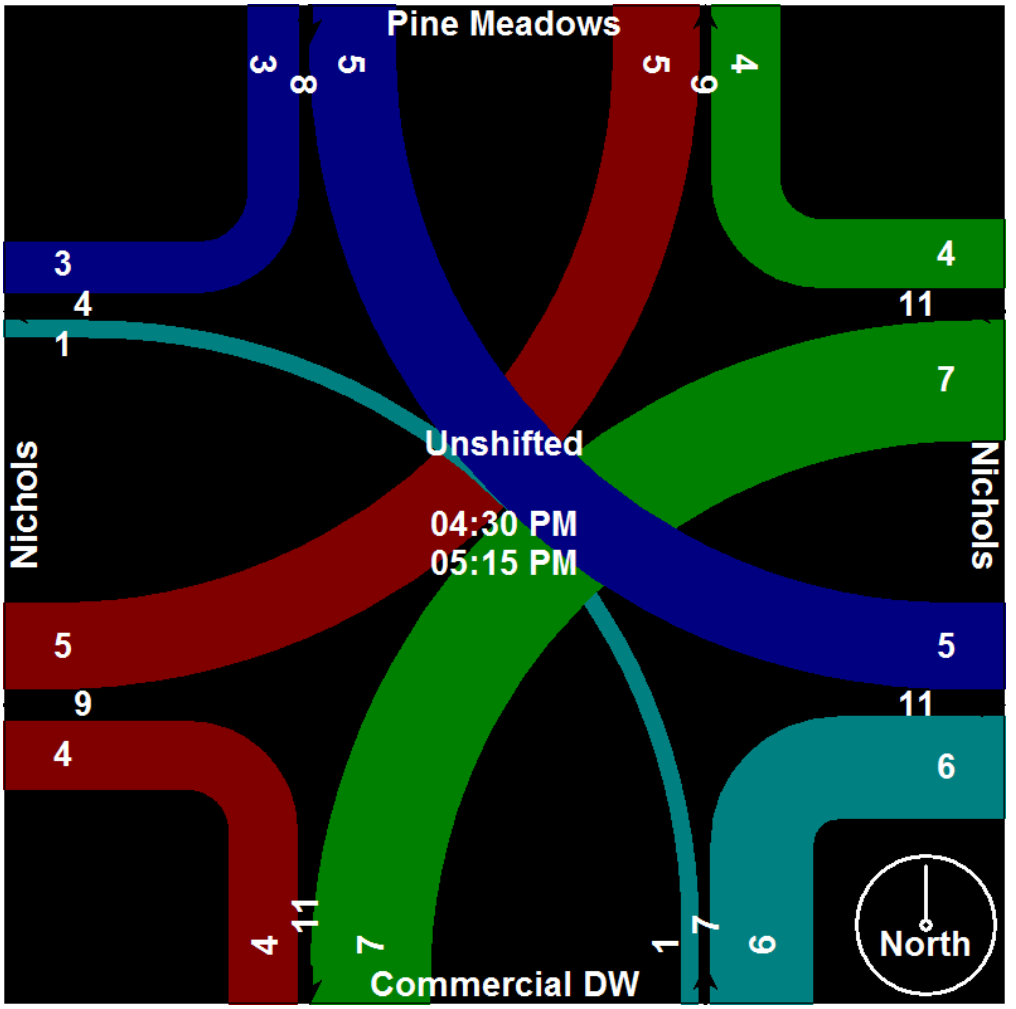


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File Name : Nichols-Pine Meadows Peds
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	Pine Meadows Southbound					Nichols Westbound					Commercial DW Northbound					Nichols Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	**2**	0	0	0	2	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1	4
04:45 PM	0	0	0	0	0	**2**	0	**4**	0	**6**	1	0	0	0	1	**2**	0	**2**	0	**4**	**11**
05:00 PM	0	0	**5**	0	**5**	0	0	1	0	1	2	0	**1**	0	**3**	0	0	1	0	1	10
05:15 PM	1	0	0	0	1	1	0	2	0	3	**3**	0	0	0	3	1	0	2	0	3	10
Total Volume	3	0	5	0	8	4	0	7	0	11	6	0	1	0	7	4	0	5	0	9	35
% App. Total	37.5	0	62.5	0		36.4	0	63.6	0		85.7	0	14.3	0		44.4	0	55.6	0		
PHF	.375	.000	.250	.000	.400	.500	.000	.438	.000	.458	.500	.000	.250	.000	.583	.500	.000	.625	.000	.563	.795



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File Name : Mayberry-Keele
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Groups Printed- Unshifted

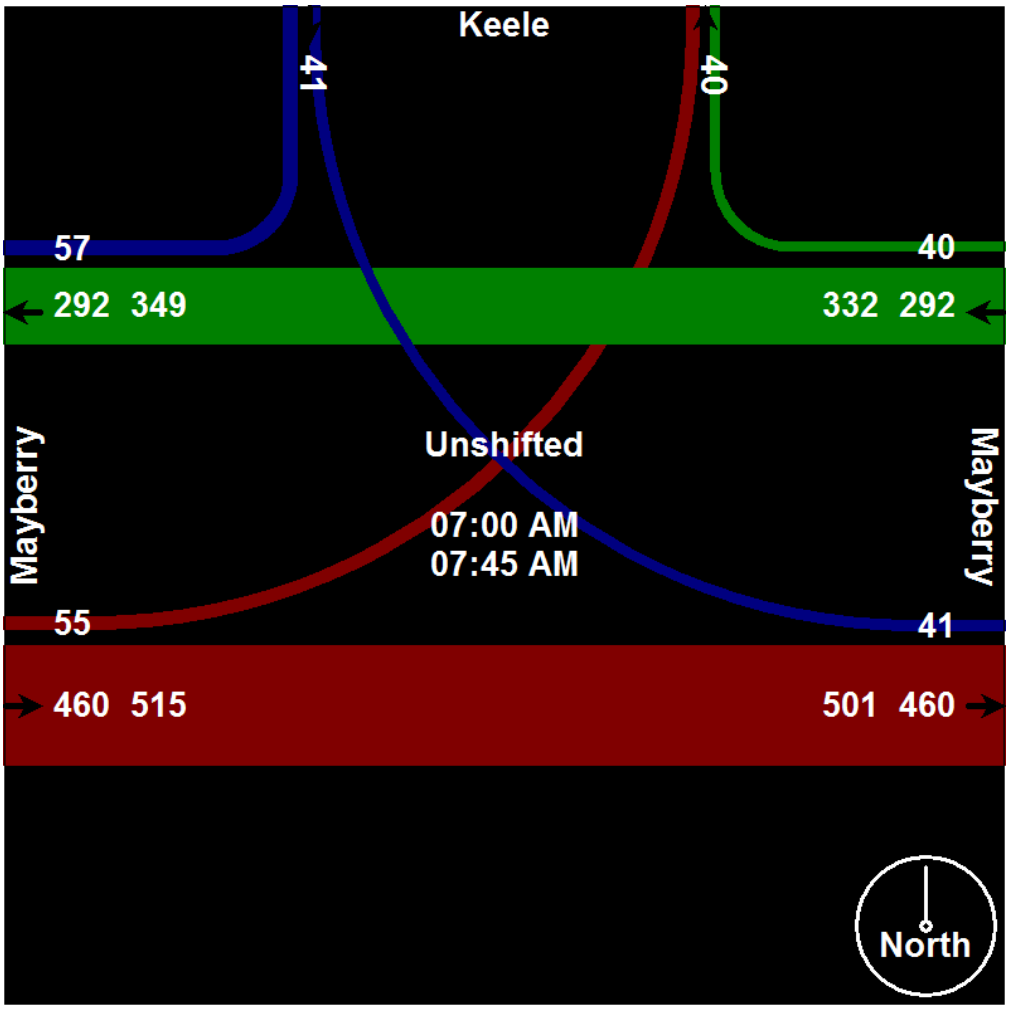
	Keele Southbound				Mayberry Westbound				Mayberry Eastbound				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	13	0	12	0	10	58	0	0	0	83	25	0	201
07:15 AM	25	0	21	0	28	93	0	0	0	126	24	0	317
07:30 AM	12	0	6	0	2	88	0	0	0	117	3	0	228
07:45 AM	7	0	2	0	0	53	0	0	0	134	3	0	199
Total	57	0	41	0	40	292	0	0	0	460	55	0	945
08:00 AM	7	0	3	0	1	48	0	0	0	113	4	0	176
08:15 AM	6	0	2	0	0	64	0	0	0	106	0	0	178
08:30 AM	6	0	7	0	5	52	0	0	0	105	11	0	186
08:45 AM	9	0	3	0	3	60	0	0	0	104	4	0	183
Total	28	0	15	0	9	224	0	0	0	428	19	0	723
*** BREAK ***													
04:00 PM	4	0	2	0	5	98	0	0	0	94	5	0	208
04:15 PM	5	0	3	0	3	119	0	0	0	112	10	0	252
04:30 PM	1	0	0	0	4	134	0	0	0	96	9	0	244
04:45 PM	10	0	0	0	7	142	0	0	0	91	16	0	266
Total	20	0	5	0	19	493	0	0	0	393	40	0	970
05:00 PM	20	0	9	0	7	178	0	0	0	110	20	0	344
05:15 PM	13	0	1	0	11	190	0	0	0	126	19	0	360
05:30 PM	12	0	8	0	10	167	0	0	0	101	15	0	313
05:45 PM	14	0	14	0	12	153	0	0	0	111	22	0	326
Total	59	0	32	0	40	688	0	0	0	448	76	0	1343
Grand Total	164	0	93	0	108	1697	0	0	0	1729	190	0	3981
Apprch %	63.8	0	36.2	0	6	94	0	0	0	90.1	9.9	0	
Total %	4.1	0	2.3	0	2.7	42.6	0	0	0	43.4	4.8	0	

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	Keele Southbound					Mayberry Westbound					Northbound	Mayberry Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	13	0	12	0	25	10	58	0	0	68	0	0	83	**25**	0	108	201
07:15 AM	**25**	0	**21**	0	**46**	**28**	**93**	0	0	**121**	0	0	126	24	0	**150**	**317**
07:30 AM	12	0	6	0	18	2	88	0	0	90	0	0	117	3	0	120	228
07:45 AM	7	0	2	0	9	0	53	0	0	53	0	0	**134**	3	0	137	199
Total Volume	57	0	41	0	98	40	292	0	0	332	0	0	460	55	0	515	945
% App. Total	58.2	0	41.8	0		12	88	0	0			0	89.3	10.7	0		
PHF	.570	.000	.488	.000	.533	.357	.785	.000	.000	.686	.000	.000	.858	.550	.000	.858	.745

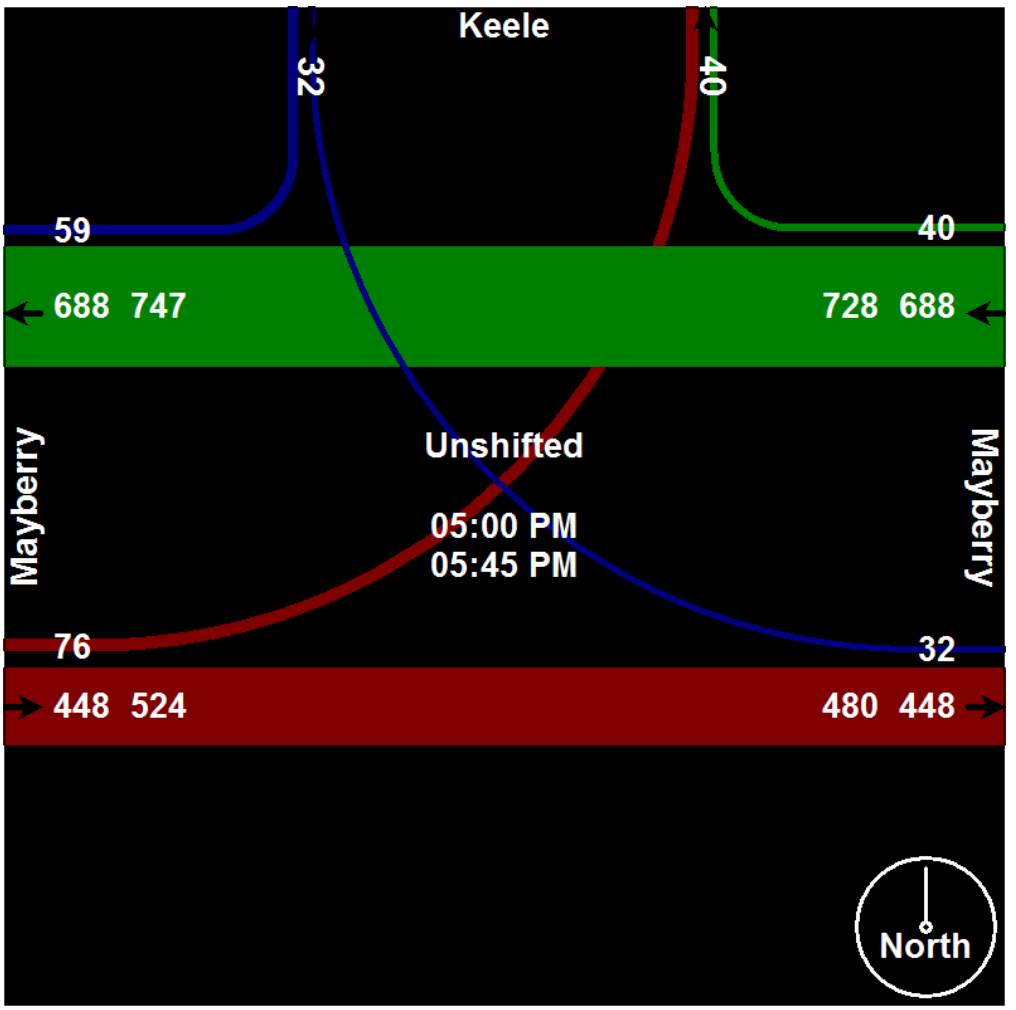


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	Keele Southbound					Mayberry Westbound					Northbound	Mayberry Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	**20**	0	9	0	**29**	7	178	0	0	185	0	0	110	20	0	130	344
05:15 PM	13	0	1	0	14	11	**190**	0	0	**201**	0	0	**126**	19	0	**145**	**360**
05:30 PM	12	0	8	0	20	10	167	0	0	177	0	0	101	15	0	116	313
05:45 PM	14	0	**14**	0	28	**12**	153	0	0	165	0	0	111	**22**	0	133	326
Total Volume	59	0	32	0	91	40	688	0	0	728	0	0	448	76	0	524	1343
% App. Total	64.8	0	35.2	0		5.5	94.5	0	0			0	85.5	14.5	0		
PHF	.738	.000	.571	.000	.784	.833	.905	.000	.000	.905	.000	.000	.889	.864	.000	.903	.933



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Groups Printed- Unshifted

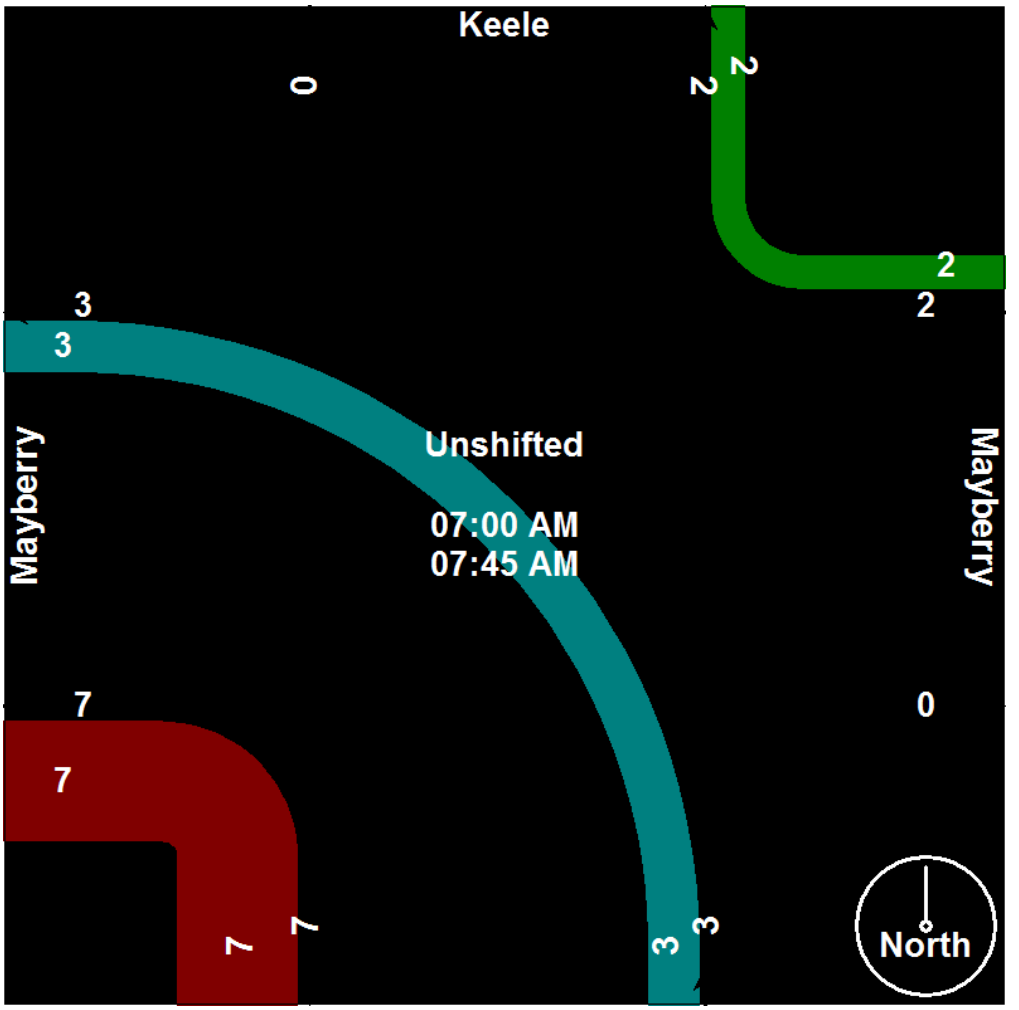
	Keele Southbound				Mayberry Westbound				Northbound				Mayberry Eastbound				
Start Time	Westside	Thru	Eastside	Peds	Northside	Thru	Southside	Peds	Eastside	Thru	Westside	Peds	Southside	Thru	Northside	Peds	Int. Total
*** BREAK ***																	
07:15 AM	0	0	0	0	0	0	0	0	0	0	3	0	6	0	0	0	9
07:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	2
Total	0	0	0	0	2	0	0	0	0	0	3	0	7	0	0	0	12
*** BREAK ***																	
08:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																	
08:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	2
Total	0	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	3
*** BREAK ***																	
04:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	3
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
04:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	3
04:45 PM	0	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	4
Total	0	0	0	0	4	0	0	0	0	0	0	0	7	0	0	0	11
05:00 PM	1	0	0	0	3	0	0	0	0	0	0	0	1	0	0	0	5
*** BREAK ***																	
05:30 PM	0	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0	3
*** BREAK ***																	
Total	1	0	0	0	5	0	0	0	0	0	0	0	2	0	0	0	8
Grand Total	1	0	1	0	12	0	0	0	0	0	3	0	17	0	0	0	34
Apprch %	50	0	50	0	100	0	0	0	0	0	100	0	100	0	0	0	
Total %	2.9	0	2.9	0	35.3	0	0	0	0	0	8.8	0	50	0	0	0	

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	Keele Southbound					Mayberry Westbound					Northbound					Mayberry Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	**3**	0	**3**	**6**	0	0	0	**6**	**9**
07:30 AM	0	0	0	0	0	**1**	0	0	0	**1**	0	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1	2
Total Volume	0	0	0	0	0	2	0	0	0	2	0	0	3	0	3	7	0	0	0	7	12
% App. Total	0	0	0	0		100	0	0	0		0	0	100	0		100	0	0	0		
PHF	.000	.000	.000	.000	.000	.500	.000	.000	.000	.500	.000	.000	.250	.000	.250	.292	.000	.000	.000	.292	.333

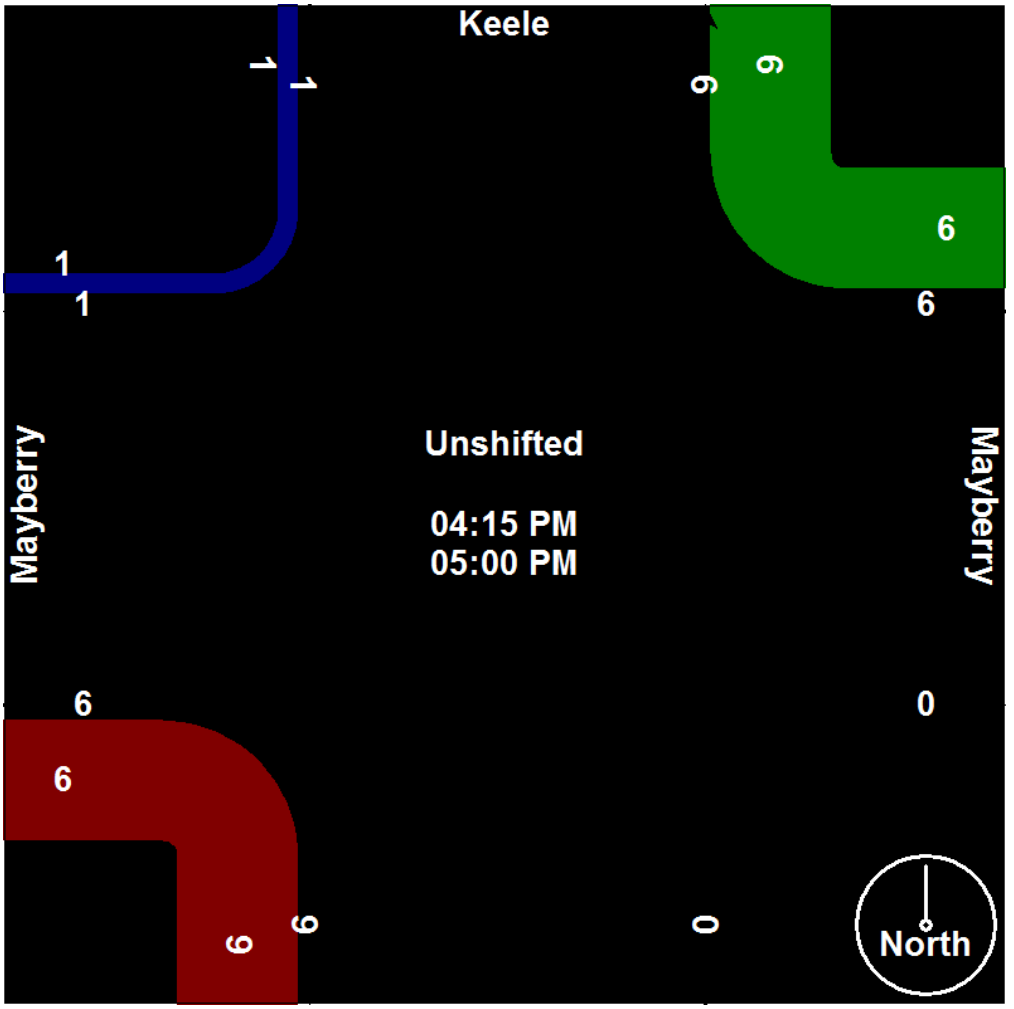


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	Keele Southbound					Mayberry Westbound					Northbound					Mayberry Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
04:30 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	**2**	0	0	0	**2**	3
04:45 PM	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	2	0	0	0	2	4
05:00 PM	**1**	0	0	0	**1**	**3**	0	0	0	**3**	0	0	0	0	0	1	0	0	0	1	**5**
Total Volume	1	0	0	0	1	6	0	0	0	6	0	0	0	0	0	6	0	0	0	6	13
% App. Total	100	0	0	0		100	0	0	0		0	0	0	0		100	0	0	0		
PHF	.250	.000	.000	.000	.250	.500	.000	.000	.000	.500	.000	.000	.000	.000	.000	.750	.000	.000	.000	.750	.650



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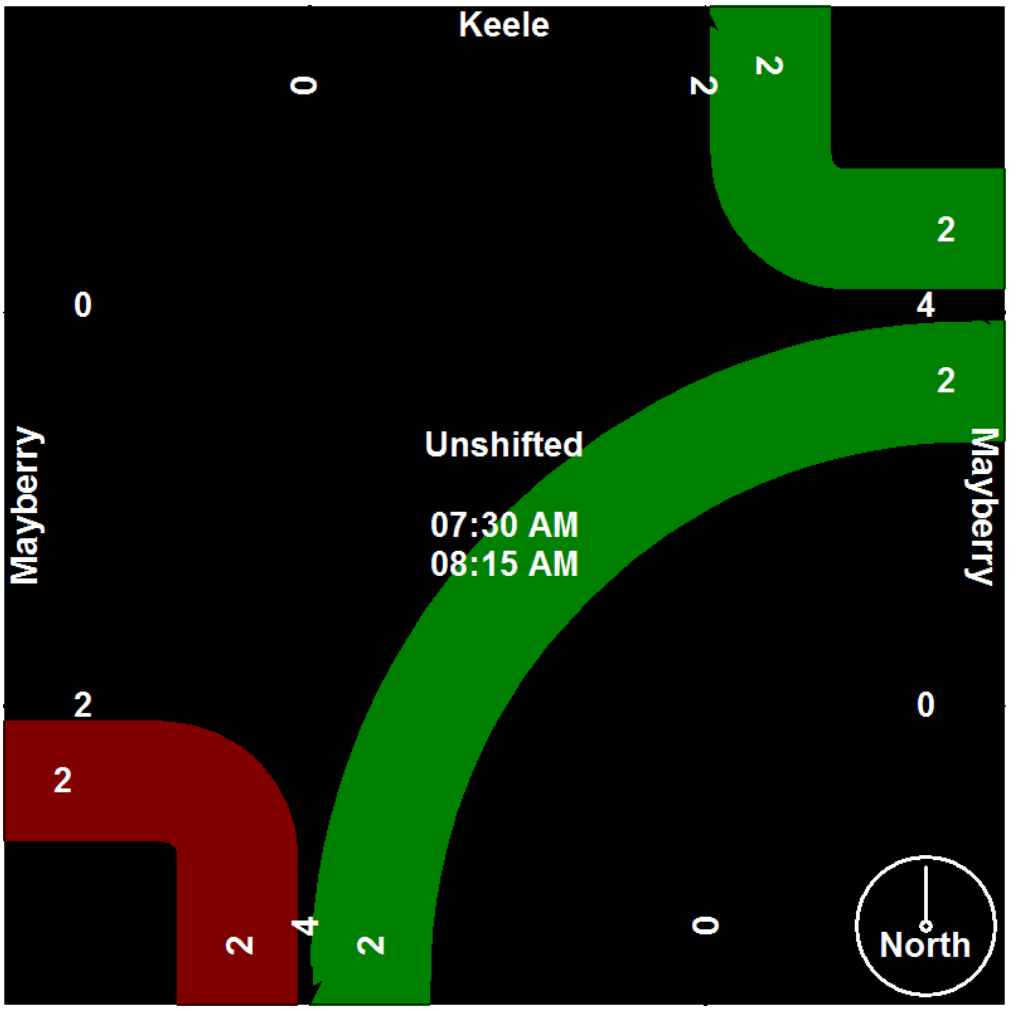
	Keele Southbound				Mayberry Westbound				Northbound				Mayberry Eastbound				
Start Time	Westside	Thru	Eastside	Peds	Northside	Thru	Southside	Peds	Eastside	Thru	Westside	Peds	Southside	Thru	Northside	Peds	Int. Total
*** BREAK ***																	
07:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
07:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	0	0	0	2	0	1	0	0	0	1	0	0	0	0	0	4
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
08:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	2
*** BREAK ***																	
Total	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	3
*** BREAK ***																	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
*** BREAK ***																	
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
*** BREAK ***																	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
*** BREAK ***																	
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2
Grand Total	0	0	0	0	2	0	2	0	0	0	1	0	3	0	3	0	11
Apprch %	0	0	0	0	50	0	50	0	0	0	100	0	50	0	50	0	
Total %	0	0	0	0	18.2	0	18.2	0	0	0	9.1	0	27.3	0	27.3	0	

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	Keele Southbound					Mayberry Westbound					Northbound					Mayberry Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	0	0	0	0	0	0	**1**	0	1	0	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	**2**	0	0	0	**2**	0	0	0	0	0	0	0	0	0	0	**2**
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	0	0	**1**	1
08:15 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0	0	1	2
Total Volume	0	0	0	0	0	2	0	2	0	4	0	0	0	0	0	2	0	0	0	2	6
% App. Total	0	0	0	0		50	0	50	0		0	0	0	0		100	0	0	0		
PHF	.000	.000	.000	.000	.000	.250	.000	.500	.000	.500	.000	.000	.000	.000	.000	.500	.000	.000	.000	.500	.750

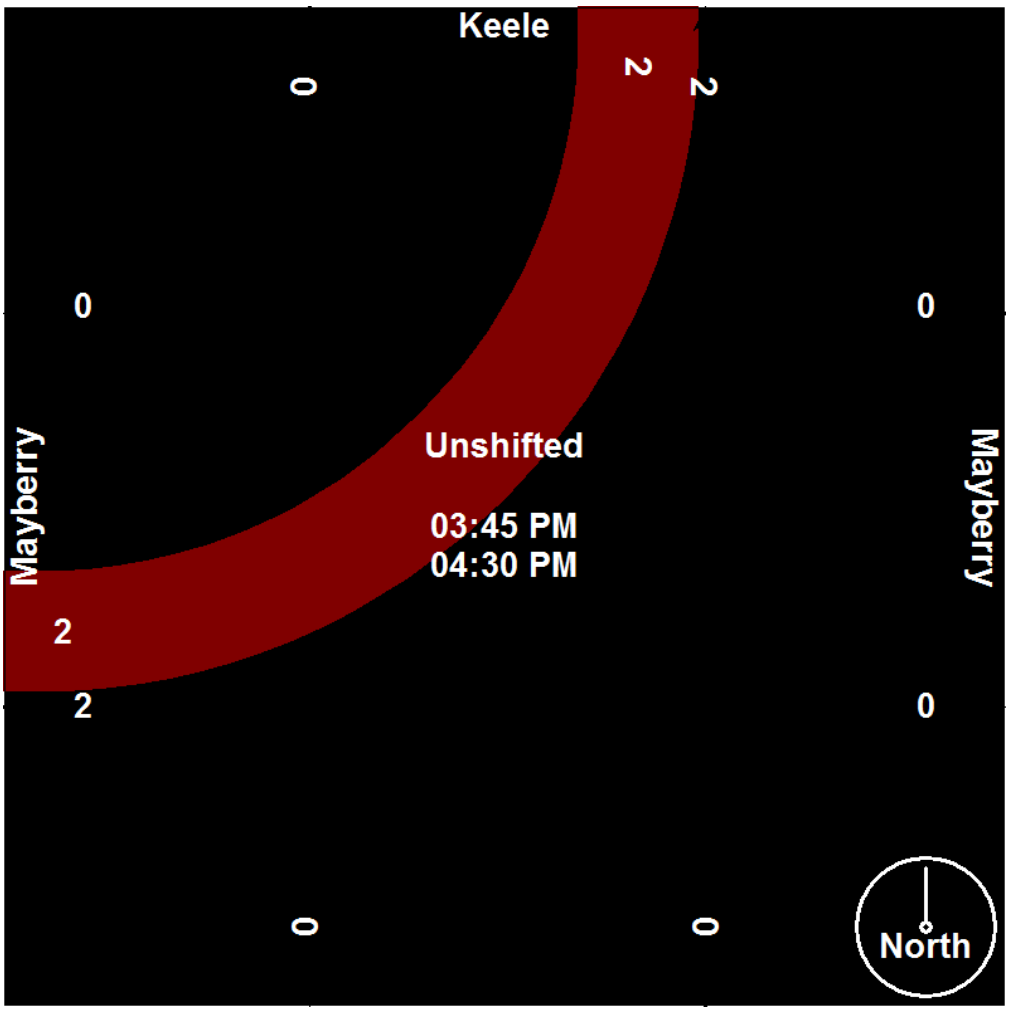


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	Keele Southbound					Mayberry Westbound					Northbound					Mayberry Eastbound					
Start Time	Westside	Thru	Eastside	Peds	App. Total	Northside	Thru	Southside	Peds	App. Total	Eastside	Thru	Westside	Peds	App. Total	Southside	Thru	Northside	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:45 PM																					
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	**1**	**1**
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	100	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500	.000	.500	.500



APPENDIX D

LOS CALCULATIONS

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	6	0	17	8	0	25	41	290	9	19	581	49
Conflicting Peds, #/hr	0	0	0	0	0	0	15	0	10	10	0	15
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	72	72	72	83	83	83	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	0	24	10	0	30	55	387	12	25	775	65

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1375	1366	822	1372	1393	408	840	0	0	399	0	0
Stage 1	858	858	-	502	502	-	-	-	-	-	-	-
Stage 2	517	508	-	870	891	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	123	147	374	123	142	643	795	-	-	1160	-	-
Stage 1	352	374	-	552	542	-	-	-	-	-	-	-
Stage 2	541	539	-	346	361	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	107	134	369	106	129	634	784	-	-	1143	-	-
Mov Cap-2 Maneuver	107	134	-	106	129	-	-	-	-	-	-	-
Stage 1	327	366	-	513	504	-	-	-	-	-	-	-
Stage 2	472	501	-	312	353	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	23.6	19.6	1.2	0.2
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	784	-	-	225	287	1143	-	-
HCM Lane V/C Ratio	0.07	-	-	0.142	0.139	0.022	-	-
HCM Control Delay (s)	9.9	-	-	23.6	19.6	8.2	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.5	0.5	0.1	-	-

Existing AM Results

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	3	2	8	11	8	31	3	336	16	84	565	3
Conflicting Peds, #/hr	3	0	1	1	0	3	5	0	8	8	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	54	54	54	83	83	83	89	89	89	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	4	15	13	10	37	3	378	18	89	601	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1204	1189	614	1190	1182	398	607	0	0	399	0	0
Stage 1	784	784	-	396	396	-	-	-	-	-	-	-
Stage 2	420	405	-	794	786	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	161	188	492	165	190	652	971	-	-	1160	-	-
Stage 1	386	404	-	629	604	-	-	-	-	-	-	-
Stage 2	611	598	-	381	403	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	135	172	487	146	174	645	964	-	-	1151	-	-
Mov Cap-2 Maneuver	135	172	-	146	174	-	-	-	-	-	-	-
Stage 1	384	372	-	625	600	-	-	-	-	-	-	-
Stage 2	560	594	-	335	371	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	20.3	20.3	0.1	1.1
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	964	-	-	259	295	1151	-	-
HCM Lane V/C Ratio	0.003	-	-	0.093	0.204	0.078	-	-
HCM Control Delay (s)	8.7	-	-	20.3	20.3	8.4	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.8	0.3	-	-

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	55	460	292	0	41	57
Conflicting Peds, #/hr	2	0	0	2	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	69	69	53	53
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	64	535	423	0	77	108

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	423	0	-	0	1086	425
Stage 1	-	-	-	-	423	-
Stage 2	-	-	-	-	663	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1136	-	-	-	239	629
Stage 1	-	-	-	-	661	-
Stage 2	-	-	-	-	512	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1134	-	-	-	226	628
Mov Cap-2 Maneuver	-	-	-	-	226	-
Stage 1	-	-	-	-	661	-
Stage 2	-	-	-	-	483	-

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	25.1
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1134	-	-	-	360
HCM Lane V/C Ratio	0.056	-	-	-	0.514
HCM Control Delay (s)	8.4	-	-	-	25.1
HCM Lane LOS	A	-	-	-	D
HCM 95th %tile Q(veh)	0.2	-	-	-	2.8

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	5	151	1	2	405	0	1	4	3	10	1	20
Conflicting Peds, #/hr	2	0	6	6	0	2	3	0	0	0	0	3
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	5	-	-	5	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	91	91	91	100	100	100	60	60	60
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	178	1	2	445	0	1	4	3	17	2	33

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	448	0	0	182	0	0	663	645	187	649	646	454
Stage 1	-	-	-	-	-	-	193	193	-	452	452	-
Stage 2	-	-	-	-	-	-	470	452	-	197	194	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1112	-	-	1393	-	-	375	391	855	383	390	606
Stage 1	-	-	-	-	-	-	809	741	-	587	570	-
Stage 2	-	-	-	-	-	-	574	570	-	805	740	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1106	-	-	1385	-	-	348	386	848	373	385	601
Mov Cap-2 Maneuver	-	-	-	-	-	-	348	386	-	373	385	-
Stage 1	-	-	-	-	-	-	802	735	-	582	568	-
Stage 2	-	-	-	-	-	-	537	568	-	789	734	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0	12.7	13.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	477	1106	-	-	1385	-	-	495
HCM Lane V/C Ratio	0.017	0.005	-	-	0.002	-	-	0.104
HCM Control Delay (s)	12.7	8.3	-	-	7.6	-	-	13.1
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	5	44	47	6	24	12
Conflicting Peds, #/hr	4	0	0	4	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	5	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	78	78	79	79
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	56	60	8	30	15

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	68	0	-	0	132	68
Stage 1	-	-	-	-	64	-
Stage 2	-	-	-	-	68	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1533	-	-	-	862	995
Stage 1	-	-	-	-	959	-
Stage 2	-	-	-	-	955	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1527	-	-	-	859	991
Mov Cap-2 Maneuver	-	-	-	-	828	-
Stage 1	-	-	-	-	959	-
Stage 2	-	-	-	-	951	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1527	-	-	-	876
HCM Lane V/C Ratio	0.004	-	-	-	0.052
HCM Control Delay (s)	7.4	-	-	-	9.3
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	53	0	21	5	1	7	11	599	14	3	270	16
Conflicting Peds, #/hr	0	0	1	1	0	0	12	0	10	10	0	12
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	54	54	54	81	81	81	88	88	88	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	98	0	39	6	1	9	12	681	16	4	321	19

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1059	1062	344	1074	1064	702	341	0	0	698	0	0
Stage 1	339	339	-	715	715	-	-	-	-	-	-	-
Stage 2	720	723	-	359	349	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	202	223	699	198	223	438	1218	-	-	898	-	-
Stage 1	676	640	-	422	434	-	-	-	-	-	-	-
Stage 2	419	431	-	659	633	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	192	219	690	182	219	433	1204	-	-	888	-	-
Mov Cap-2 Maneuver	192	219	-	182	219	-	-	-	-	-	-	-
Stage 1	668	637	-	417	429	-	-	-	-	-	-	-
Stage 2	400	426	-	612	630	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	38	19.2	0.1	0.1
HCM LOS	E	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1204	-	-	241	270	888	-	-
HCM Lane V/C Ratio	0.01	-	-	0.569	0.059	0.004	-	-
HCM Control Delay (s)	8	-	-	38	19.2	9.1	-	-
HCM Lane LOS	A	-	-	E	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	3.2	0.2	0	-	-

Existing PM Results

Intersection	
Int Delay, s/veh	7.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	3	2	3	18	16	106	13	719	11	34	559	13
Conflicting Peds, #/hr	3	0	0	0	0	3	11	0	2	2	0	11
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	67	67	67	73	73	73	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	3	4	25	22	145	14	749	11	35	582	14

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1531	1454	603	1452	1455	769	599	0	0	763	0	0
Stage 1	663	663	-	785	785	-	-	-	-	-	-	-
Stage 2	868	791	-	667	670	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	96	130	499	108	130	401	978	-	-	850	-	-
Stage 1	450	459	-	386	404	-	-	-	-	-	-	-
Stage 2	347	401	-	448	455	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	50	122	492	99	122	396	968	-	-	841	-	-
Mov Cap-2 Maneuver	50	122	-	99	122	-	-	-	-	-	-	-
Stage 1	442	439	-	379	397	-	-	-	-	-	-	-
Stage 2	202	394	-	418	435	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	47.3	60.4	0.2	0.5
HCM LOS	E	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	968	-	-	97	241	841	-	-
HCM Lane V/C Ratio	0.014	-	-	0.123	0.796	0.042	-	-
HCM Control Delay (s)	8.8	-	-	47.3	60.4	9.5	-	-
HCM Lane LOS	A	-	-	E	F	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.4	5.9	0.1	-	-

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	76	448	688	40	32	59
Conflicting Peds, #/hr	1	0	0	1	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	91	91	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	498	756	44	41	76

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	800	0	-	0	1445	779
Stage 1	-	-	-	-	778	-
Stage 2	-	-	-	-	667	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	823	-	-	-	145	396
Stage 1	-	-	-	-	453	-
Stage 2	-	-	-	-	510	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	822	-	-	-	130	396
Mov Cap-2 Maneuver	-	-	-	-	130	-
Stage 1	-	-	-	-	453	-
Stage 2	-	-	-	-	458	-

Approach	EB	WB	SB
HCM Control Delay, s	1.4	0	35.7
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	822	-	-	-	230
HCM Lane V/C Ratio	0.103	-	-	-	0.507
HCM Control Delay (s)	9.9	-	-	-	35.7
HCM Lane LOS	A	-	-	-	E
HCM 95th %tile Q(veh)	0.3	-	-	-	2.6

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	9	272	3	2	214	3	3	2	2	8	2	10
Conflicting Peds, #/hr	3	0	5	5	0	3	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	5	-	-	5	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	88	88	88	44	44	44	46	46	46
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	280	3	2	243	3	7	5	5	17	4	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	247	0	0	284	0	0	563	552	287	554	551	250
Stage 1	-	-	-	-	-	-	301	301	-	249	249	-
Stage 2	-	-	-	-	-	-	262	251	-	305	302	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1319	-	-	1278	-	-	437	442	752	443	442	789
Stage 1	-	-	-	-	-	-	708	665	-	755	701	-
Stage 2	-	-	-	-	-	-	743	699	-	705	664	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1313	-	-	1272	-	-	417	438	748	432	438	785
Mov Cap-2 Maneuver	-	-	-	-	-	-	417	438	-	432	438	-
Stage 1	-	-	-	-	-	-	703	660	-	750	700	-
Stage 2	-	-	-	-	-	-	713	698	-	688	659	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	12.7	12
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	485	1313	-	-	1272	-	-	558
HCM Lane V/C Ratio	0.033	0.007	-	-	0.002	-	-	0.078
HCM Control Delay (s)	12.7	7.8	-	-	7.8	-	-	12
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	11	87	91	16	12	11
Conflicting Peds, #/hr	9	0	0	9	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	5	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	77	77	54	54
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	98	118	21	22	20

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	139	0	-	0	251	138
Stage 1	-	-	-	-	129	-
Stage 2	-	-	-	-	122	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1445	-	-	-	738	910
Stage 1	-	-	-	-	897	-
Stage 2	-	-	-	-	903	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1433	-	-	-	732	902
Mov Cap-2 Maneuver	-	-	-	-	743	-
Stage 1	-	-	-	-	897	-
Stage 2	-	-	-	-	895	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1433	-	-	-	811
HCM Lane V/C Ratio	0.009	-	-	-	0.053
HCM Control Delay (s)	7.5	-	-	-	9.7
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	6	0	17	8	0	25	41	290	9	19	581	49
Conflicting Peds, #/hr	0	0	0	0	0	0	15	0	10	10	0	15
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	72	72	72	83	83	83	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	0	24	10	0	30	55	387	12	25	775	65

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1161	1366	435	940	1393	214	840	0	0	399	0	0
Stage 1	858	858	-	502	502	-	-	-	-	-	-	-
Stage 2	303	508	-	438	891	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	150	146	569	218	141	791	791	-	-	1156	-	-
Stage 1	318	372	-	520	540	-	-	-	-	-	-	-
Stage 2	681	537	-	567	359	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	128	127	561	185	123	780	780	-	-	1139	-	-
Mov Cap-2 Maneuver	128	127	-	185	123	-	-	-	-	-	-	-
Stage 1	289	356	-	473	491	-	-	-	-	-	-	-
Stage 2	587	488	-	513	344	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.5	14	1.5	0.4
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	780	-	-	298	438	1139	-	-
HCM Lane V/C Ratio	0.07	-	-	0.107	0.091	0.022	-	-
HCM Control Delay (s)	10	0.4	-	18.5	14	8.2	0.2	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.4	0.3	0.1	-	-

Past AM Results

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	3	2	8	11	8	31	3	336	16	84	565	3
Conflicting Peds, #/hr	3	0	1	1	0	3	5	0	8	8	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	54	54	54	83	83	83	89	89	89	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	4	15	13	10	37	3	378	18	89	601	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	987	1189	313	880	1182	209	607	0	0	399	0	0
Stage 1	784	784	-	396	396	-	-	-	-	-	-	-
Stage 2	203	405	-	484	786	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	202	187	683	241	188	797	967	-	-	1156	-	-
Stage 1	352	402	-	601	602	-	-	-	-	-	-	-
Stage 2	780	597	-	533	401	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	165	164	676	208	164	789	960	-	-	1147	-	-
Mov Cap-2 Maneuver	165	164	-	208	164	-	-	-	-	-	-	-
Stage 1	350	354	-	597	598	-	-	-	-	-	-	-
Stage 2	723	593	-	452	353	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.7	17.2	0.1	1.4
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	960	-	-	308	355	1147	-	-
HCM Lane V/C Ratio	0.004	-	-	0.078	0.17	0.078	-	-
HCM Control Delay (s)	8.8	0	-	17.7	17.2	8.4	0.4	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.6	0.3	-	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	55	460	292	0	41	57
Conflicting Peds, #/hr	2	0	0	2	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	69	69	53	53
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	64	535	423	0	77	108

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	423	0	-	0	818	214
Stage 1	-	-	-	-	423	-
Stage 2	-	-	-	-	395	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1133	-	-	-	314	791
Stage 1	-	-	-	-	629	-
Stage 2	-	-	-	-	650	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1131	-	-	-	289	789
Mov Cap-2 Maneuver	-	-	-	-	289	-
Stage 1	-	-	-	-	629	-
Stage 2	-	-	-	-	597	-

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	18.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1131	-	-	-	458
HCM Lane V/C Ratio	0.057	-	-	-	0.404
HCM Control Delay (s)	8.4	0.3	-	-	18.1
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.2	-	-	-	1.9

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	5	151	1	2	405	0	1	4	3	10	1	20
Conflicting Peds, #/hr	2	0	6	6	0	2	3	0	0	0	0	3
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	91	91	91	100	100	100	60	60	60
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	178	1	2	445	0	1	4	3	17	2	33

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	448	0	0	182	0	0	424	645	98	558	646	232
Stage 1	-	-	-	-	-	-	193	193	-	452	452	-
Stage 2	-	-	-	-	-	-	231	452	-	106	194	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1109	-	-	1391	-	-	514	389	939	412	389	770
Stage 1	-	-	-	-	-	-	790	740	-	557	569	-
Stage 2	-	-	-	-	-	-	751	569	-	888	739	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1103	-	-	1383	-	-	483	384	931	401	384	763
Mov Cap-2 Maneuver	-	-	-	-	-	-	483	384	-	401	384	-
Stage 1	-	-	-	-	-	-	783	733	-	552	566	-
Stage 2	-	-	-	-	-	-	711	566	-	870	732	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0	12.2	11.9
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	509	1103	-	-	1383	-	-	577
HCM Lane V/C Ratio	0.016	0.005	-	-	0.002	-	-	0.09
HCM Control Delay (s)	12.2	8.3	0	-	7.6	0	-	11.9
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	5	44	47	6	24	12
Conflicting Peds, #/hr	4	0	0	4	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	78	78	79	79
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	56	60	8	30	15

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	68	0	-	0	105	38
Stage 1	-	-	-	-	64	-
Stage 2	-	-	-	-	41	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1531	-	-	-	881	1026
Stage 1	-	-	-	-	951	-
Stage 2	-	-	-	-	976	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1525	-	-	-	877	1022
Mov Cap-2 Maneuver	-	-	-	-	877	-
Stage 1	-	-	-	-	951	-
Stage 2	-	-	-	-	972	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1525	-	-	-	921
HCM Lane V/C Ratio	0.004	-	-	-	0.049
HCM Control Delay (s)	7.4	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	53	0	21	5	1	7	11	599	14	3	270	16
Conflicting Peds, #/hr	0	0	1	1	0	0	12	0	10	10	0	12
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	54	54	54	81	81	81	88	88	88	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	98	0	39	6	1	9	12	681	16	4	321	19

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	706	1062	183	884	1064	361	341	0	0	698	0	0
Stage 1	339	339	-	715	715	-	-	-	-	-	-	-
Stage 2	367	723	-	169	349	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	323	222	828	240	221	636	1215	-	-	894	-	-
Stage 1	649	638	-	388	433	-	-	-	-	-	-	-
Stage 2	625	429	-	816	632	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	308	216	818	222	215	628	1201	-	-	884	-	-
Mov Cap-2 Maneuver	308	216	-	222	215	-	-	-	-	-	-	-
Stage 1	637	634	-	381	425	-	-	-	-	-	-	-
Stage 2	597	421	-	764	628	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	20.1	16.1	0.2	0.1
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1201	-	-	374	339	884	-	-
HCM Lane V/C Ratio	0.01	-	-	0.366	0.047	0.004	-	-
HCM Control Delay (s)	8	0.1	-	20.1	16.1	9.1	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1.6	0.1	0	-	-

Past PM Results

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	3	2	3	18	16	106	13	719	11	34	559	13
Conflicting Peds, #/hr	3	0	0	0	0	3	11	0	2	2	0	11
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	67	67	67	73	73	73	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	3	4	25	22	145	14	749	11	35	582	14

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1079	1454	312	1151	1455	394	599	0	0	763	0	0
Stage 1	663	663	-	785	785	-	-	-	-	-	-	-
Stage 2	416	791	-	366	670	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	173	129	684	153	129	605	974	-	-	845	-	-
Stage 1	417	457	-	352	402	-	-	-	-	-	-	-
Stage 2	585	399	-	626	454	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	103	117	675	137	117	597	964	-	-	836	-	-
Mov Cap-2 Maneuver	103	117	-	137	117	-	-	-	-	-	-	-
Stage 1	405	427	-	342	391	-	-	-	-	-	-	-
Stage 2	403	388	-	573	424	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	29.6	32.9	0.3	0.8
HCM LOS	D	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	964	-	-	158	314	836	-	-
HCM Lane V/C Ratio	0.014	-	-	0.076	0.611	0.042	-	-
HCM Control Delay (s)	8.8	0.1	-	29.6	32.9	9.5	0.3	-
HCM Lane LOS	A	A	-	D	D	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	3.8	0.1	-	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	76	448	688	40	32	59
Conflicting Peds, #/hr	1	0	0	1	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	91	91	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	498	756	44	41	76

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	800	0	-	0	1196	401
Stage 1	-	-	-	-	778	-
Stage 2	-	-	-	-	418	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	819	-	-	-	179	599
Stage 1	-	-	-	-	413	-
Stage 2	-	-	-	-	632	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	818	-	-	-	154	598
Mov Cap-2 Maneuver	-	-	-	-	154	-
Stage 1	-	-	-	-	413	-
Stage 2	-	-	-	-	542	-

Approach	EB	WB	SB
HCM Control Delay, s	1.9	0	24.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	818	-	-	-	297
HCM Lane V/C Ratio	0.103	-	-	-	0.393
HCM Control Delay (s)	9.9	0.5	-	-	24.8
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.3	-	-	-	1.8

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	9	272	3	2	214	3	3	2	2	8	2	10
Conflicting Peds, #/hr	3	0	5	5	0	3	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	88	88	88	44	44	44	46	46	46
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	280	3	2	243	3	7	5	5	17	4	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	247	0	0	284	0	0	429	552	147	410	551	128
Stage 1	-	-	-	-	-	-	301	301	-	249	249	-
Stage 2	-	-	-	-	-	-	128	251	-	161	302	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1316	-	-	1275	-	-	510	440	873	526	441	898
Stage 1	-	-	-	-	-	-	683	664	-	733	699	-
Stage 2	-	-	-	-	-	-	862	698	-	825	663	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1310	-	-	1269	-	-	488	436	869	513	437	894
Mov Cap-2 Maneuver	-	-	-	-	-	-	488	436	-	513	437	-
Stage 1	-	-	-	-	-	-	678	659	-	727	698	-
Stage 2	-	-	-	-	-	-	830	697	-	805	658	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	11.9	11.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	537	1310	-	-	1269	-	-	638
HCM Lane V/C Ratio	0.03	0.007	-	-	0.002	-	-	0.068
HCM Control Delay (s)	11.9	7.8	0	-	7.8	0	-	11.1
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	11	87	91	16	12	11
Conflicting Peds, #/hr	9	0	0	9	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	77	77	54	54
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	98	118	21	22	20

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	139	0	-	0	203	78
Stage 1	-	-	-	-	129	-
Stage 2	-	-	-	-	74	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1442	-	-	-	767	967
Stage 1	-	-	-	-	883	-
Stage 2	-	-	-	-	940	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1430	-	-	-	760	959
Mov Cap-2 Maneuver	-	-	-	-	760	-
Stage 1	-	-	-	-	883	-
Stage 2	-	-	-	-	932	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	9.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1430	-	-	-	844
HCM Lane V/C Ratio	0.009	-	-	-	0.05
HCM Control Delay (s)	7.5	0	-	-	9.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

APPENDIX E

RTC AND TAC COMMENTS

Technical Advisory Committee Meeting #1 — September 3, 2015			
No.	**Date**	**Comment**	**Response/Comment**
1	09/03/2015	The following corridors should be given consideration for Complete Streets: • Virginia Street • La Posada • Mill Street (east of Terminal Way)	• North Virginia Street is included as a Complete Street recommendation (north of McCarran Boulevard) as well as South Virginia Street (from Patriot to Mt. Rose Highway) as a potential lane reduction complete street. • The La Posada Street score was medium to low and was not prioritized as part of the Complete Streets Master Plan • Based on the information provided by the RTC, Mill Street, east of Terminal Way is an existing complete street.
2	09/03/2015	There are maintenance impacts due to complete streets, with additional signage and striping, this should be addressed/mentioned within the plan/report.	This comment will be mentioned in the Master Plan Report.

All comments were addressed by: DVM

End of Comments from TAC Meeting #1 (09/03/2015)

Technical Advisory Committee Meeting #2 — November 5, 2015			
No.	**Date**	**Comment**	**Response/Comment**
1	11/05/2015	The following updates should be included in the Map of Existing and Planned RTIP Complete Streets: • North Virginia from Sierra/Comstock to McCarran • Evans from McCarran to 2nd St • Plumas from Moana to McCarran • Southeast McCarran (under construction)	The noted facilities are shown as existing/planned complete streets.
2	11/05/2015	The following corridors were to be removed from the Map of Potential Locations for Lane Reductions even though they currently have 4 lanes and less than 18,000 ADT: • Veteran's Parkway • North Virginia Street • Glendale Avenue • Plumb Lane • Airway Drive (already has sidewalks and bike lanes) • Lakeside Drive has been studied in the past and was found to not be a suitable candidate for lane reduction	Recommendations were modified to not show as potential locations for lane reduction complete streets.

All comments were addressed by: DVM

End of Comments from TAC Meeting #2 (11/05/2015)

Technical Advisory Committee Meeting #3 — January 14, 2016			
No.	**Date**	**Comment**	**Response/Comment**
1	01/14/2016	Eastlake Boulevard in Washoe Valley should be added to the recommendations map as no bike lane exists on this facility	Recommendation added along this facility.
2	01/14/2016	4th Street through downtown could be difficult to upgrade to a complete street. 5th of 6th should be considered as alternatives.	5th Street is now shown as an alternative. 4th Street is shown as a recommendation, but it is recommended that 5th Street and 6th Street should be reviewed as part of the analysis of 4th Street for Complete Street improvements.
3	01/14/2016	4th Street from Virginia Street to Keystone Avenue – revise to not include as a possible lane reduction. The remaining section of 4th street should remain as a lane reduction candidate.	Recommendation modified.
4	01/14/2016	Extend complete streets recommendation along South Meadows Boulevard to the Southeast Connector.	Recommendation modified.
5	01/14/2016	Greg Street east of Sparks Boulevard -revise to not include as a possible lane reduction.	Recommendation modified.
6	01/14/2016	Vista Boulevard from Greg Street to I-80 -revise to not include as a possible lane reduction.	Recommendation modified.
7	01/14/2016	McCarran Boulevard in Sparks – add Complete Street Recommendation	Recommendation added.
8	01/14/2016	9th Street from Wells Avenue to El Rancho Drive – add recommendation	Recommendation added.
9	01/14/2016	Wells Avenue from 9th Street to 4th Street – add recommendation	Recommendation added.
10	01/14/2016	Arlington Avenue from 1st Street to 6th Street – add recommendation	Recommendation added.

All comments were addressed by: DVM

End of Comments from TAC Meeting #3 (01/14/2016)

Comments Received from Amy Cummings (RTC)			
No.	**Date**	**Comment**	**Response/Comment**
1	1/7/2016	Is Silver Lake Road included in the recommendations?	Silver Lake Road is shown as an existing Complete Street based on the information provided by the RTC.
2	1/7/2016	Change Keystone from a possible lane reduction to a regular complete street.	Recommendation modified.
3	1/7/2016	Change Moana between Kietzke and Plumb from a possible lane reduction to a regular complete street.	Recommendation modified.
4	1/27/2016	Remove downtown Virginia Street from Liberty to Maple	Modification made.
5	1/27/2016	Modify 2nd Street from Planned Complete Street in TRIP to recommended Complete Street.	Recommendation modified.
6	1/27/2016	Modify recommendation of Glendale Avenue from a lane reduction possibility to a regular complete street recommendation.	Recommendation modified.
7	2/5/2016	Modify recommendation of Greg Street from a lane reduction possibility to a regular complete street recommendation.	Recommendation modified.
8	2/17/2016	Please add North Virginia Street (north of McCarran to Stead Boulevard) as a recommendation.	Recommendation added.
9	3/7/2016	Forest Street – add recommendation even though it is not on a regional road.	Recommendation added.

All comments were addressed by: DVM

End of Comments from Amy Cummings (01/07 – 03/07/2016)

COMPLETE STREETS
MASTER PLAN

APPENDIX F

CENTER STREET AND SIERRA STREET TECHNICAL MEMORANDUM

MEMORANDUM

To: Amy Cummings RTC

From: Molly O'Brien
Devin Moore

Kimley-Horn

Date: October 6, 2015

Subject: Downtown Bike Facilities Review: Center Street and Sierra Street

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This Technical Memorandum has been prepared to provide a summary of the existing conditions, including AADT, peak hour volumes, pavement width and lane configuration for Center Street and Sierra Street. This review is to provide a high level analysis of the feasibility of repurposing the existing pavement to include striped bike lanes.

REVIEW

Using the model network provided for the Complete Streets Master Plan project, AADT was reviewed as well as NDOT count stations to determine a reasonable peak hour factor. It was determined that approximately 10% of the AADT occurs in the peak hour in this area, and an even lane distribution was evaluated.

The following graphics/tables illustrate Center Street (south to north) and Sierra Street (north to south) and data associated with the differing cross sections along these segments

Forest Street was also reviewed, no AADT volumes were available for review, but the roadway differs in pavement width from 35 feet at the south end to 45 feet at the north end with two southbound lanes and on-street parking on both sides of the road.

Center Street - Segment #7	
Pavement Width:	48'
Cross Section:	13' Turn Lane
	12' Lane
	11' Lane
	12' Lane
AADT	11,330
AADT/Lane	3,777
Peak Hour/Lane	378

Center Street - Segment #6	
Pavement Width:	48'
Cross Section:	9' Parking
	9' Lane
	11' Lane
	10' Lane
	9' Parking
AADT	11,740
AADT/Lane	3,913
Peak Hour/Lane	392

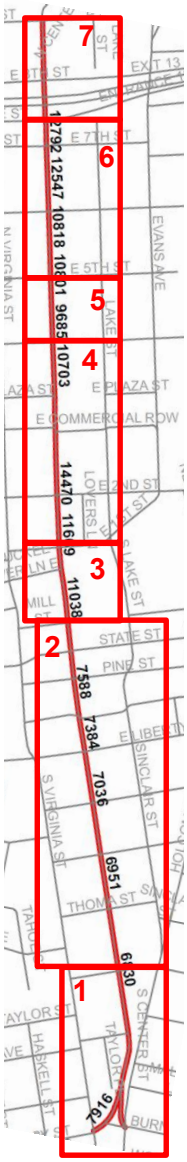
Center Street - Segment #5	
Pavement Width:	33’
Cross Section:	11' Lane
	11' Lane
	11' Lane
AADT	10,250
AADT/Lane	3,417
Peak Hour/Lane	342

Center Street - Segment #4	
Pavement Width:	50’
Cross Section:	10' Turn Lane
	14' Lane
	12' Lane
	14' Lane
AADT	12,290
AADT/Lane	4,097
Peak Hour/Lane	410

Center Street - Segment #3	
Pavement Width:	40’
Cross Section:	14' Lane
	12' Lane
	14' Lane
AADT	11,040
AADT/Lane	3,680
Peak Hour/Lane	368

Center Street - Segment #2	
Pavement Width:	44’
Cross Section:	9' Parking
	13' Lane
	13' Lane
	9' Parking
AADT	7,160
AADT/Lane	3,580
Peak Hour/Lane	358

Center Street - Segment #1	
Pavement Width:	36’
Cross Section:	9' Parking
	3' buffer
	12' Lane
	3' buffer
	9' parking
AADT	6,830
AADT/Lane	6,830
Peak Hour/Lane	683

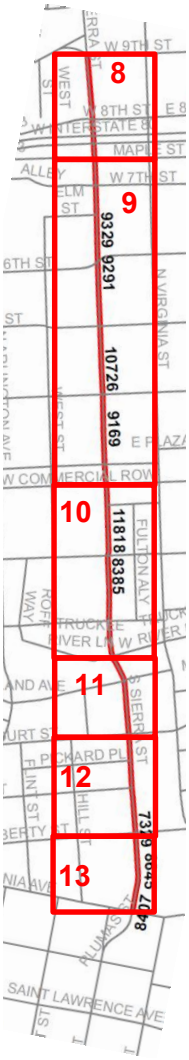


CENTER STREET EXISTING CONDITIONS

Sierra Street - Segment #8	
Pavement Width:	60’
Cross Section:	11' Lane 14' Lane 16' Lane 10' Lane 9' Parking
AADT	9,840
AADT/Lane	3,280
Peak Hour/Lane	330

Sierra Street - Segment #10	
Pavement Width:	54’
Cross Section: (some 36' sections with no parking)	9' Parking 12' Lane 12' Lane 12' Lane 9' Parking
AADT	10,110
AADT/Lane	3,370
Peak Hour/Lane	340

Sierra Street - Segment #12	
Pavement Width:	46’
Cross Section:	9' Parking 13' Lane 14' Lane 10' Parking
AADT	7,400
AADT/Lane	3,700
Peak Hour/Lane	370



Sierra Street - Segment #9	
Pavement Width:	60’
Cross Section:	12' Parking 12' Lane 12' Lane 12' Lane 12' Parking
AADT	9,620
AADT/Lane	3,207
Peak Hour/Lane	330

Sierra Street - Segment #11	
Pavement Width:	44’
Cross Section:	7.5' Parking 14.5' Lane 14.5' Lane 7.5' Parking
AADT	10,740
AADT/Lane	5,370
Peak Hour/Lane	540

Sierra Street - Segment #13	
Pavement Width:	64’
Cross Section:	11' Lane 11' Lane 11' Turn Lane 11' Lane 11' Lane 9' Parking
AADT	8,530
AADT/Lane	2,133
Peak Hour/Lane	220

SIERRA STREET EXISTING CONDITIONS

PROPOSED OPTIONS FOR ACCOMMODATING BICYCLES

Two preliminary options were considered for accommodating bicycles on Center Street and Sierra Street.

- Option #1 – Northbound bike lane on Center Street and southbound bike lane on Sierra Street
- Option #2 – Two-Way cycle track on Center Street and Sierra Street

Attachment A contains a summary of the existing lane widths, and proposed lane widths for both Option #1 and Option #2. It is important to note that the preliminary analysis was conducted using the best available information and additional studies should be conducted to further determine the feasibility of the options.

Option #1 – Northbound Bike Lane on Center Street and Southbound Bike Lane on Sierra Street

Based on the preliminary review of available data, it appears that a northbound bike lane could be provided on Center Street and a southbound bike lane could be provided on Sierra Street by narrowing travel lanes, and in some instances reducing the width of parking lanes. It is anticipated that a reduction in the number of travel lanes and/or parking is not required to implement this option. Attachment A provides a summary of the proposed cross sections.

Option #2 – Two-Way cycle track on Center Street and Sierra Street

Based on the preliminary review of available data, it appears that a two-way cycle track could be provided on Center Street and Sierra Street. In some sections of the roadways, this will require reducing travel lane widths, removing travel lanes and removal of parking. Attachment A provides a summary of the proposed cross sections.

SUMMARY

It appears that for the majority of the alignment along both Center Street and Sierra Street, there is sufficient width in the existing lanes that could be reallocated for a bike lane northbound on Center Street and southbound on Sierra Street. The removal of a lane or a parking lane could be considered where excess width is not provided. Particularly in the downtown section, where speeds are lower, lanes as narrow as 10 feet could be considered acceptable.

A bike lane could be accommodated along Forest Street north of Tahoe Street while maintaining the on-street parking. When the pavement width narrows, removal of a lane or of parking on one side of the street would be required for adequate space for the bike lane.

Cycle tracks could be considered feasible with the removal of lanes and/or on-street parking in certain segments along the roadways.

If you have any questions regarding this review, please contact me at 755-200-1979.

		Center Street - Segment #1			Center Street - Segment #2			Center Street - Segment #3			Center Street - Segment #4			Center Street - Segment #5			Center Street - Segment #6			Center Street - Segment #7		
		Existing	Option #1 - Bike Lane NB	Option #2 - Two-Way Cycle Track	Existing	Option #1 - Bike Lane NB	Option #2 - Two-Way Cycle Track	Existing	Option #1 - Bike Lane NB	Option #2 - Two-Way Cycle Track	Existing	Option #1 - Bike Lane NB	Option #2 - Two-Way Cycle Track	Existing	Option #1 - Bike Lane NB	Option #2 - Two-Way Cycle Track	Existing	Option #1 - Bike Lane NB	Option #2 - Two-Way Cycle Track	Existing	Option #1 - Bike Lane NB	Option #2 - Two-Way Cycle Track
Pavement Width		36	36	36	44	44	44	40	40	40	50	50	50	33	33	33	48	48	48	48	48	48
Cross Section	**Parking**	9	8		9	8											9	8				
	Cycle Track			12			11			10			8			10			10			12
	Buffer	3	3	3			3			3			2			3			3			3
	Travel Lane	12	12	12	13	11	11	14	12	9	10	11	10	11	10	10	9	9	9	13	10.5	11
	Travel Lane				13	11	11	12	11	9	14	11	10	11	10	10	11	9	9	12	10.5	11
	Travel Lane							14	11	9	12	11	10	11	10		10	9	9	11	10.5	11
	Travel Lane										14	11	10							12	10.5	
	Bike Lane		5			6			6			6			3			5			6	
	Buffer	3																				
	Parking	9	8	9	9	8	8										9	8	8			
AADT		6,830			7,160			11,040			12,290			10,250			11,740			11,330		
AADT/Lane		6,830			3,580			3,680			4,097			3,417		5,125	3,913			3,777		3,777
Peak Hour per Lane		683			358			368			410			342		513	392			378		378

Notes:

	Narrower parking, and removal of buffer between parking and travel lanes	Removal of parking on one side of street, removal of buffer between parking and travel lanes		Narrower parking, narrower travel lanes	Removal of parking on one side of street		Narrower travel lanes	Narrower travel lanes, cycle track to be reduced to 8' to provide wider travel lanes		Narrower travel lanes	Narrower travel lanes, cycle track is minimum width		Narrower travel lanes, bike lane width is not preferred. Could be widened if travel lanes are reduced in width or reduced by a lane	Narrower travel lanes, removal of a travel lane		Narrower travel lanes, narrower parking lanes	Narrower travel lanes, narrower parking lanes, removal of parking on one side of street. A travel lane could be removed in lieu of removing parking.		Narrower travel lanes	Narrower travel lanes, reduction in travel lanes	

		Sierra Street - Segment #8			Sierra Street - Segment #9			Sierra Street - Segment #10			Sierra Street - Segment #11			Sierra Street - Segment #12			Sierra Street - Segment #13		
		Existing	Option #1 - Bike Lane SB	Option #2 - Two-Way Cycle Track	Existing	Option #1 - Bike Lane SB	Option #2 - Two-Way Cycle Track	Existing	Option #1 - Bike Lane SB	Option #2 - Two-Way Cycle Track	Existing	Option #1 - Bike Lane SB	Option #2 - Two-Way Cycle Track	Existing	Option #1 - Bike Lane SB	Option #2 - Two-Way Cycle Track	Existing	Option #1 - Bike Lane SB	Option #2 - Two-Way Cycle Track
Pavement Width		60	60	60	60	60	50	54	54	54	44	44	44	46	46	46	64	64	64
Cross Section	**Parking**				12	9	9	9	9	9	7.5	8.5	7.5	9	9	9			
	Bike Lane		6			6			6			6			6			5	
	Buffer					3													
	Travel Lane	11	11.5	10	12	11	10	12	10	10	14.5	11	11	13	11	11	11	10	11
	Travel Lane	14	11	10	12	11	10	12	10	10	14.5	11	11	14	11	11	11	10	11
	Travel Lane	16	11	10	12	11	10	12	10	10							11	10	
	Travel Lane	10	11.5	10													11	10	11
	Travel Lane																11	10	11
	Buffer			3			3			3			3			3			3
	Cycle Track			8			8			12			11.5			12			8
	Parking	9	9	9	12	9		9	9		7.5	7.5		10	9		9	9	9
AADT		9,840			9,620			10,110			10,740			7,400			8,530		
AADT/Lane		3,280			3,207						5,370			3,700			2,133		2,843
Peak Hour per Lane		246			321			337			537			370			214		284

Notes:	Narrower lanes	Narrower lanes	Narrower parking, narrower travel lanes	Removal of parking on one side of street, narrower travel lanes	Narrower travel lanes	Narrower travel lanes, removal of parking on one side of street	Narrower travel lanes, wider parking on one side of road	Narrower travel lanes, parking removed on one side of street	Narrower travel lanes	Narrower travel lanes, parking removed on one side of street	Narrower travel lanes	Narrower travel lanes, removal of a travel lane or center left turn lane